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1993 MONTANA STATE RAIL PLAN UPDATE

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MONTANA
STATE RAIL PLAN
JUNE 1993
UPDATE

Prepared by
MONTANA DEPARTMENT OF TRANSPORTATION
RAIL AND TRANSIT DIVISION
2701 Prospect Avenue
P.O. Box 201001
Helena, MT 59620-1001
(406) 444-3423

Assisted by:

csi

Corporate Strategies, Inc.
5415-A Backlick Road
Springfield, VA 22151
(703) 941-0560

TABLE OF CONTENTS

1 - INTRODUCTION
- STATE RAIL PLAN REQUIREMENTS . . . . . 1 - 1
- RAIL PLANNING PROCESS AND PUBLIC REVIEW . . . . . 1 - 4
- MONTANA RAIL LEGISLATION . . . . . 1 - 4
- CONTENTS OF THE 1993 STATE RAIL PLAN . . . . . 1 - 5

2 - MONTANA TRANSPORTATION SYSTEM
- RAILROADS . . . . . 2 - 1
- FREIGHT TRAFFIC . . . . . 2 - 3
- TRACK SPEED AND SAFETY CLASSIFICATION . . . . . 2 - 4
- LINE CLEARANCES AND WEIGHT LIMITATIONS . . . . . 2 - 4
- INTERMODAL FACILITIES . . . . . 2 - 8
- TRUCK SERVICE . . . . . 2 - 9
- AIR SERVICES . . . . . 2 - 10
- BUS SERVICE . . . . . 2 - 12
- PIPELINE SERVICE . . . . . 2 - 12
- TRADE CORRIDORS . . . . . 2 - 12
- GROWTH AND CHANGES IN MONTANA'S RAIL NETWORK . . . . . 2 - 12
- ABANDONMENTS . . . . . 2 - 16
- RAIL-HIGHWAY CROSSING SAFETY . . . . . 2 - 18

3 - PROCEDURES FOR ANALYSIS OF RAIL FREIGHT LINES
- PRO FORMA ANALYSIS . . . . . 3 - 1

4 - LINE ANALYSIS
- BURLINGTON NORTHERN . . . . . 4 - 1
- CENTRAL MONTANA RAIL . . . . . 4 - 25
- DAKOTA, MISSOURI VALLEY, AND WESTERN RAILROAD . . . . . 4 - 26
- MONTANA RAIL LINK . . . . . 4 - 28
- MONTANA WESTERN RAILWAY COMPANY, INC. . . . . 4 - 35
- RARUS RAILWAY COMPANY . . . . . 4 - 36
- UNION PACIFIC RAILROAD . . . . . 4 - 39
- PROPOSED BULL MOUNTAINS RAIL SPUR . . . . . 4 - 40
- TRAFFIC SUMMARY . . . . . 4 - 41

5 - PROJECT IDENTIFICATION AND PRIORITIZATION
- RAIL LINE CLASSIFICATION ANALYSIS CRITERIA . . . . . 5 - 1
- BENEFIT/COST ANALYSIS . . . . . 5 - 2
- SHIPPER'S SURVEY . . . . . 5 - 2
- LINE RANKING . . . . . 5 - 7
- PROPOSED PROJECTS . . . . . 5 - 9

6 - RAIL PASSENGER SERVICE
- AMTRAK . . . . . 6 - 1

APPENDIX A MONTANA HIGHWAY CROSSING DATA

APPENDIX B SHORT LINE PLANNER©
APPENDIX C BENEFIT COST MODEL
APPENDIX D SURVEY
APPENDIX E GLOSSARY

LIST OF EXHIBITS

2-1 CURRENT RAIL SYSTEM IN MONTANA . . . . . Unbound
2-2 MONTANA RAILROAD TRACKAGE . . . . . 2 - 2
2-3 TOTAL ORIGINATING AND TERMINATING NON-COAL CARLOADS AND TONNAGE - MONTANA 1991 . . . . . 2 - 4
2-4 MAP OF MAXIMUM SPEED LIMITS IN MONTANA . . . . . 2 - 5
2-5 MAP OF WEIGHT LIMITS AND LINE CLEARANCE CODES IN MONTANA . . . . . 2 - 6
2-6 RAILWAY LINE CLEARANCES IN MONTANA . . . . . 2 - 7
2-7 PASSENGERS USING AIR SERVICE IN MONTANA . . . . . 2 - 11
2-8 ABANDONED RAILROAD LINES IN MONTANA, 1979-1992 . . . . . 2 - 17
2-9 COMPARISON OF MONTANA GRADE CROSSING ACCIDENTS WITH NEIGHBORING STATES . . . . . 2 - 20
3-1 LONG TERM DEBT PAYBACK . . . . . 3 - 4
3-2 BALANCE PRO FORMA BALANCE SHEET . . . . . 3 - 5
3-3 CASH FLOW STATEMENT . . . . . 3 - 6
3-4 SUMMARY OF FINANCIAL AND OPERATING RATIOS . . . . . 3 - 7
3-5 OPERATING STATISTICS . . . . . 3 - 8
3-6 PRO FORMA PROFIT AND LOSS STATEMENT . . . . . 3 - 11

4-1 PRINCIPAL COAL PRODUCTION AND SHIPMENTS VIA BN . . . . . 4 - 1
4-2 PRINCIPAL COMMODITIES CARRIED BY THE BN IN MONTANA - 1991 . . . . . 4 - 2
4-3 ANALYSIS OF TRAFFIC ORIGINATED AND TERMINATED ON THE BN SUBDIVISIONS IN MONTANA FOR 1991-EXCLUDING COAL . 4 - 3
NORTHERN CORRIDOR-KOOTENAI, HI LINE, MILK RIVER, AND GLASGOW SUBDIVISIONS
4-4 MAP . . . . . 4 - 3
4-5 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 4
GREAT FALLS TO SWEET GRASS, SWEET GRASS SUBDIVISION
4-6 MAP . . . . . 4 - 5
4-7 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 5
GREAT FALLS TO MOSSMAIN, LAUREL SUBDIVISION
4-8 MAP . . . . . 4 - 6
4-9 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 6
GLENDIVE TO JONES JUNCTION, FORSYTH SUBDIVISION (YELLOWSTONE DIVISION)
4-10 MAP . . . . . 4 - 7
4-11 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 8

STRYKER TO EUREKA, EUREKA SUBDIVISION
4-12 MAP . . . . . 4 - 8
4-13 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 9
SIPPLE TO LEWISTON, LEWISTOWN SUBDIVISION
4-14 MAP . . . . . 4 - 9
4-15 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 10
GREAT FALLS TO FORT BENTON, FORT BENTON SUBDIVISION
4-16 MAP . . . . . 4 - 10
4-17 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 11
POWER TO CHOTEAU, CHOTEAU SUBDIVISION
4-18 MAP . . . . . 4 - 11
4-19 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 12
EASTHAM JUNCTION TO FAIRFIELD, FAIRFIELD SUBDIVISION
4-20 MAP . . . . . 4 - 12
4-21 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 13
VALIER JUNCTION TO VALIER, VALIER SUBDIVISION
4-22 MAP . . . . . 4 - 13
4-23 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 14
GREAT FALLS TO HELENA JUNCTION, HELENA SUBDIVISION
4-24 MAP . . . . . 4 - 14
4-25 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 15
COLUMBIA FALLS TO KALISPELL, KALISPELL SUBDIVISION
4-26 MAP . . . . . 4 - 15
4-27 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 16
BAINVILLE TO SCOBEY, SCOBEY SUBDIVISION
4-28 MAP . . . . . 4 - 16
4-29 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 17
PACIFIC JUNCTION TO BIG SANDY, BIG SANDY SUBDIVISION
4-30 MAP . . . . . 4 - 17
4-31 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 18
GLENDIVE TO CIRCLE, CIRCLE LINE SUBDIVISION, YELLOWSTONE DIVISION
4-32 MAP . . . . . 4 - 18
4-33 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 19
SARPY JUNCTION TO KUEHN, SARPY LINE SUBDIVISION, YELLOWSTONE DIVISION, AND NICHOLS WYE TO BIG SKY, COLSTRIP SUBDIVISION
4-34 MAP . . . . . 4 - 19
4-35 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 20
TERRY TO NORTH DAKOTA STATE LINE, TERRY LINE SUBDIVISION, MINOT DIVISION
4-36 MAP . . . . . 4 - 20
4-37 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 21
GLENDIVE TO SNOWDEN, SNOWDEN SUBDIVISION, YELLOWSTONE DIVISION
4-38 MAP . . . . . 4 - 21
4-39 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 22

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HUNTLEY TO WYOMING STATE LINE, BIG HORN SUBDIVISION, POWDER RIVER DIVISION

4-40 MAP . . . . . 4 - 22
4-41 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 23

LAUREL TO WYOMING STATE LINE, CASPER SUBDIVISION, DENVER DIVISION

4-42 MAP . . . . . 4 - 24
4-43 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 24

NERCO TO WYOMING STATE LINE, DUTCH SUBDIVISION, DENVER DIVISION

4-44 MAP . . . . . 4 - 24
4-45 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 25

CENTRAL MONTANA RAIL

4-46 MAP . . . . . 4 - 25
4-47 RAIL TRAFFIC STATISTICS - 1991 . . . . . 4 - 26

DAKOTA, MISSOURI VALLEY, AND WESTERN RAILROAD

4-48 MAP . . . . . 4 - 27
4-49 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 27

MONTANA RAIL LINK

4-50 MAP . . . . . 4 - 28
4-51 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 29

LOGAN - WHITEHALL (5TH SUBDIVISION)

4-52 MAP . . . . . 4 - 30
4-53 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 30

WHITEHALL - ALER (5TH SUBDIVISION)

4-54 MAP . . . . . 4 - 31

DRUMMOND - PHILIPSBURG (8TH SUBDIVISION)

4-55 MAP . . . . . 4 - 31

MISSOULA - DARBY (9TH SUBDIVISION)

4-56 MAP . . . . . 4 - 32
4-57 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 32

DESMET - DIXON - PARADISE (10TH SUBDIVISION)

4-58 MAP . . . . . 4 - 32
4-59 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 33

DIXON - POLSON (11TH SUBDIVISION)

4-60 MAP . . . . . 4 - 33
4-61 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 34

WHITEHALL - SPIRE ROCK

4-62 MAP . . . . . 4 - 35

MONTANA WESTERN RAILWAY COMPANY, INC

4-63 MAP . . . . . 4 - 35
4-64 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 36

RARUS RAILWAY COMPANY

4-65 MAP . . . . . 4 - 36
4-66 RARUS RAILWAY CO. ROUTE MILEAGE . . . . . 4 - 37

UNION PACIFIC RAILROAD

4-67 MAP . . . . . 4 - 39
4-68 RAILROAD TRAFFIC STATISTICS - 1991 . . . . . 4 - 40

PROPOSED BULL MOUNTAINS RAIL SPUR

4-69 MAP . . . . . 4 - 40
4-70 SUMAMARY OF RAIL TRAFFIC ORIGINATING AND TERMINATING IN MONTANA - 1991 . . . . . 4 - 42

5-1 RAIL LINE CLASSIFICATION ANALYSIS CRITERIA . . . . . 5 - 1
5-2 SUMMARY OF STATE BY STATE TRAFFIC . . . . . 5 - 5
5-3 RANKING OF ORIGINATING AND TERMINATING 1991 NON-COAL TRAFFIC AND SUMMARY ASSESSMENT OF FUTURE LINE OPERATION . . . . . 5 - 8
5-4 SUMMARY OF BENEFITS AND COST OF PROPOSED NETA SPUR TRACK . . . . . 5 - 11
5-5 SUMMARY OF BENEFITS AND COST OF PROPOSED PROJECT TO INCREASE BRIDGE CLEARANCE . . . . . 5 - 13
5-6 SUMMARY OF BENEFITS AND COST OF PROPOSED SAGE CREEK AND JUDITH RIVER BRIDGE REPAIRS . . . . . 5 - 15

6-1 AMTRAK SERVICE AND RIDERSHIP FISCAL YEARS 1983-1991 . . . . . 6 - 1

A-1 MONTANA 1993 CIRCUITRY PROJECTS, STIP 1993, SUBMITTED 4-1993 . . . . . A - 1
A-2 MONTANA 1993 SIGNAL PROJECTS, STIP 1993, SUBMITTED 4-1993 A - 2
A-3 FEDERAL RAILWAY ADMINISTRATION, GRADE CROSSING PROGRAM CONTACTS FOR THE STATE OF MONTANA . . . . . A - 3

B-1 TRAFFIC INPUTS . . . . . B - 2
B-2 OTHER INCOME, EQUIPMENT AND PROPERTY INPUTS . . . . . B - 3
B-3 LABOR INPUTS . . . . . B - 4
B-4 MATERIAL AND OTHER INPUTS . . . . . B - 5
B-5 OPERATING PLAN . . . . . B - 6
B-6 OTHER ASSET, LIABILITY AND EQUITY INPUTS . . . . . B - 7

1 - INTRODUCTION

State rail plans have been a part of the Federal Railroad Administration's Local Rail Freight Assistance Program (and predecessor programs) since authorized and encouraged by the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act). Section 49 in the Code of Federal Regulations, Part 266 (49 CFR Part 266.17) codifies and defines federal requirements for a state rail plan in order to be eligible for federal funding under LRFA. This section, revised in November 1990, prescribes that the State Rail Plan "shall be based on a comprehensive, coordinated and continuing planning process for all transportation services within the state and shall be developed with an opportunity for participation by persons interested in rail activity in the state and adjacent states where appropriate."

STATE RAIL PLAN REQUIREMENTS

The revised (1990) CFR prescribes the format and contents of the State Rail Plan to include:

- Objectives of the state's Rail Service Assistance Program and how the implementation of the State Rail Plan will accomplish these objectives.
- An illustration of the state's entire rail system on suitable scale maps of the state highway system.
- Identification of classes of rail service within the state, which classes are described in the CFR.
- Screening criteria to be used in selecting eligible lines which the state analyzes in detail.
- Description of the state's methodology for determining the ratio of benefits to the cost of proposed projects eligible for LRFA funding.
- Description of the planning process, including participation of local and regional governmental bodies.
- Description of the overall planning process for all transportation services in the state.

The purpose of this State Rail Plan is for the State of Montana to retain its eligibility for LRFA funding and to define the state's role in rail planning. States are encouraged to coordinate planning opportunities related to the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

Federal State Rail Plan Program History

The Local Rail Freight Assistance Program first originated in the year 1973 when the Regional Rail Reorganization Act was passed. This was brought about to alleviate the effects to rail service due to the bankruptcy of Penn Central and five other smaller carriers. With the establishment of Conrail, the first actual funding from the Local Rail Service Assistance Program (LRSA) began in April 1976 to cover the cost of rail service continuation subsidies. However, with the bankruptcies of the Milwaukee Road (of significance to Montana) and the Rock Island, Congress expanded the LRSA through the Railroad Reorganization and Regulatory Reform Act of 1976. This Act authorized the LRSA Program in Section 5 of the Department of Transportation Act and made all states eligible for financial assistance.

Congress legislated the Local Rail Service Assistance Act of 1978, which allowed LRSA funding to be used on pre-abandoned, privately-owned lines. Various criteria were established to ascertain types of assistance that would be available. These would change in later years. The Omnibus Budget Reconciliation Act of 1981 created more criteria for funding and eliminated rail service continuation subsidies as an authorized purpose. With the Department of Transportation Appropriations Act beginning with Fiscal Year 1984, the LRSA Program evolved from a formula entitlement program to a discretionary guideline for project purposes.

The Local Rail Service Reauthorizing Act was enacted in 1989 and made substantive revisions including changing the program's name to the Local Rail Freight Assistance (LRFA) Program. The types of projects available for funding included the acquisition of rail lines, track rehabilitation, planning, and rail facility construction; however, substitute service was eliminated as an authorized purpose. Criteria and eligibility requirements were modified.

Of significance was that only rail lines which annually carry less than 5 million gross ton miles per mile, but more than 20 carloads per mile were eligible for funding. The Federal matching share ratio of rehabilitation projects remains at 70 percent, but the matching share for acquisition and rail facility construction projects was reduced to 50 percent. The annual entitlement for each state was reduced from $100,000 to $36,000. Among other changes was the requirement that the benefits and costs of projects be analyzed in accordance with a standard methodology established by the FRA.

The Rail Safety Enforcement and Review Act was enacted in September 1992 and authorized appropriations for the LRFA Program for Fiscal Year 1993 and 1994. The amount appropriated for Fiscal Year 1993 was only $8 million.

Designated State Agency

Montana law MCA-60-11-101 provides that the Montana Department of Transportation (MDT) is the designated agency for rail planning and the preparation of the Montana State Rail Plan. Prior to the creation of MDT in July 1991, this responsibility was with the Montana Department of Commerce.

State Transportation Plan

The Montana Rail Plan Update will be included as part of the state transportation plan which will be developed by MDT as required by ISTEA.

The State of Montana published its initial State Rail Plan in August 1979. Subsequent supplements were published in August 1980, March 1984, and December 1987. Updates were published in September 1992 and May 1985. This stand-alone document, therefore, represents Montana's seventh publication of its rail plan.

Department Program and Mission Statement

The MDT mission is "to serve the public by establishing a transportation system that emphasizes safety, environmental preservation, and cost-effectiveness."

MDT's Rail Program is managed by the Rail Services Section within the Rail and Transit Division of MDT. MDT's rail plan objectives are as follows:

- To develop the rail plan update as a component of a comprehensive state rail and intermodal transportation plan. Evaluate the rail network and modal feeders as an element of the state's total rail and intermodal transportation system.

- To carry on a cooperative, comprehensive, and continuing rail and intermodal planning program which, where possible, also serves national interests as espoused in ISTEA and which includes participation from state and local governments, the railroad industry, intermodal operators, and provides for public input.

- To identify and evaluate user needs and revenue generating and operating costs required for the economic operation of specific light density lines (branch lines and secondary mainline) or intermodal alternatives which are viable and feasible economic alternatives.

- To qualify the economic impacts of anticipated changes in the rail system, abandonments, down grading, change of ownership or new construction.

- To identify any negative environmental and social impacts of rail or intermodal system changes.

- To identify and evaluate modal and intermodal alternatives to rail system changes, including solutions for shippers on lines where abandonment is anticipated.

- To assess existing rail passenger service and identify possible rail, intermodal, or feeder service expansions.

- To list federal and state funding sources and programs which can assist in the rehabilitation of rail lines to enhance their economic viability, or similar sources and programs which provide intermodal alternatives that achieve equal or superior economically viable performance.

RAIL PLANNING PROCESS AND PUBLIC REVIEW

This rail plan is one element of an overall statewide transportation plan. Potential rail projects will be identified in the 1994 Statewide Transportation Improvement Plan (STIP) as required by ISTEA. The STIP will be updated annually and will identify project funding needs for at least a two year period. Amendments to the plan will be developed periodically, as the needs arise. The statutory deadline for submitting project applications for entitlement and discretionary funding to FRA is October 1 and January 1 for each year, respectively.

Although the CFR no longer requires public hearings on the rail plan prior to its submission to the Federal Railroad Administration, MDT will place a Notice of Opportunity for Public Hearing in several newspapers around the state, informing the public that the draft rail plan is available for review and comment. A public hearing will be held if there is sufficient public interest to justify a hearing.

MONTANA RAIL LEGISLATION

Senate Bill 359, approved by the Committee on Taxation at the time this plan was prepared, is entitled "An act enhancing local rail transportation services in Montana; providing loans and grants for the continued operation of local rail freight transportation services and for the development and improvement of intermodal transportation facilities to mitigate long term highway impacts and to promote efficiency and effectiveness in the statewide transportation system; authorizing the Department of Transportation to provide loans or grants to certain railroads and port authority . . . . Principal features of SB 359 provide the following:

- Identification of railroad lines for rehabilitation

- Identification of railroad branch lines . . . that may have potential for local rail freight transportation service . . . to determine the feasibility of providing loans or grants to the owner or operator of the railroad line . . .

- . . . identify, under the State Rail Planning Program, railroad branch lines that should be preserved for continued operation

- . . . establish procedures, including the use of federal funds received for rail freight assistance programs . . . for providing loans and grants . . .

Section 2 of SB 359 demonstrates that the legislature believes it is in the interest of the State of Montana to preserve and encourage, whenever possible, Montana's railroad transportation infrastructure, especially Class III carriers and railroads within the state that are eligible for rail freight assistance programs. The legislature further determined that preservation of those lines and the improvement of intermodal transportation facilities are necessary to enhance access to markets, mitigate rural isolation and long term negative impacts on the highways of the state, and necessary to promote the efficiency and effectiveness of the state's transportation system.

Loans and grants made available to railroads and to port authorities must also be in the interest of the state. The Bill further defines requirements for an owner or operator to be eligible for a loan or a grant, to include at least the following:

- The owner or operator must undertake to repair, improve, or replace rail facilities to allow the continued operation of the railroad for local rail transportation services.

- The operator derives revenue from the continued operation of the railroad.

A port authority created under Title 7, Chapter 14, Part 11 is eligible for a loan or a grant provided that the port authority is included in the state transportation planning process and the facility for which the loan or grant is sought is integrally related to the railroad transportation system of the state.

While Senate Bill 359 provides the mechanism to maintain state funds, if available, the Legislature did not authorize or appropriate such funds.

House Bill 541, authorizes a county or a group of counties to create a rail authority and to allow mill levies for its operation. Specifically, it provides for a county or group of counties to levy up to 6 mills, with voter approval, for the operation of a rail authority, exempting the mills levied for a rail authority from the property tax limitations of Montana Code Title 15, Chapter 10, Part 4.

The purpose of a rail authority is to provide for the preservation and improvement of abandoned rail service for agriculture, industry, or passenger traffic and to provide for the preservation of abandoned railroad right-of-way for future transportation uses. . . Additional details spelling out the general powers of the authority, acquisition and operation of properties, and other requirements are spelled out within the act.

CONTENTS OF THE 1993 STATE RAIL PLAN

Chapter 2 describes the Montana transportation system and the various rail companies operating within the state. The chapter provides an overview of the operation of each railroad, its traffic, line clearance and weight limitations, including detailed maps. The two intermodal freight transportation facilities within the state are briefly described, along with truck, air, and intercity bus services. The chapter comments on the growth and

changes in Montana's rail network since the last State Rail Plan Update was published in 1985, and includes the rail lines abandoned in Montana between 1979 and 1992. The final section of Chapter 2 focuses on rail-highway crossing safety and the state's Rail-Highway Safety Program.

Chapter 3 describes general procedures for analysis of rail freight lines, including tools available for each railroad operating within the state. Public information with regard to traffic originated and terminated and various statistical relationships are presented for each line, where available. Information was provided through the excellent cooperation of the railroads operating within the state.

Chapter 4 is a detailed line analysis of every segment or railroad in the state, including general condition assessment, non-confidential traffic statistics, information about possible future changes, and other facts about the line. Maps of each line and major stations are included. The chapter concludes with a summary of 1991 originated and terminated traffic by line segment and the ratio of originations to total traffic.

Chapter 5 summarizes rail line classification analysis criteria and the benefit cost methodology used by MDT, which follows FRA's 1990 guidelines. Several representative projects are included in the work plan and preliminary analysis of their benefit cost ratios were developed using a computerized methodology to assist in the analysis. The chapter also highlights results of the shipper survey conducted by the state.

Chapter 6 discusses intercity rail passenger service within the state.

Appendices to the state rail plan include the following:

- Appendix A - Montana Highway Crossing Data
- Appendix B - Short Line Planner©
- Appendix C - Benefit-Cost Model
- Appendix D - Shipper Survey

2 - MONTANA TRANSPORTATION SYSTEM

RAILROADS

At the beginning of 1993, the state of Montana was served by seven freight hauling railroads with 3,463 route miles of track. Two of these carriers are designated as Class I lines by the Interstate Commerce Commission as they receive more than $250 million in gross operating revenues annually. These are the Burlington Northern and Union Pacific. Montana Rail Link is classified as a Class II with revenues between $20 million and $250 million. Four lines are designated as Class III carriers with gross revenues of less than $20 million annually. They are the Central Montana Railroad (CMR); Dakota, Missouri Valley, & Western (DMVW); Montana Western Railroad (MW); and Rarus. All Class III carriers operate entirely within Montana, except the DMVW which also operates in North Dakota.

The current rail system in Montana is illustrated in the unbound fold-out map listed in the List of Exhibits as Exhibit 2-1. A review of this map reveals the dominant east-west orientation of main rail lines in both the northern and southern portions of the state. Lines leading through the Great Falls area in the center of the state connect with these northern and southern segments. The northern and southern lines also connect in the east at the North Dakota border and also just inside Idaho to the west. This east-west orientation lends Montana to be considered a "bridge" state. Several other lines connect into the state from different directions; such as, from Canada into the Shelby area, from Idaho and Wyoming into the Butte area, from North Dakota into Terry, and from Wyoming and Colorado into Laurel and Huntley.

Exhibit 2-2 summarizes the January 1993 mileage of each of the seven freight railroads in Montana. Of the 3,370 miles of operating track, 65.6 percent is owned or operated by one company—the Burlington Northern. The remaining distribution is shared by Montana Rail Link with 24.0 percent, Union Pacific with 3.7 percent, Central Montana with 2.5 percent, Dakota, Missouri Valley & Western with 1.7 percent, Montana Western with 1.7 percent, and Rarus with .8 percent.

EXHIBIT 2-2
MONTANA RAILROAD TRACKAGE

COMPANY	MONTANA ROUTE MILES OWNED AND LEASED	TOTAL ROUTE MILES NOT OPERATED	TOTAL ROUTE MILES OPERATED	PERCENT OF TOTAL STATE ROUTE OPERATED
Burlington Northern	2,244.2	32.1	2,212.1	65.6
Central Montana Rail	92.6	8.4	84.2	2.5
Dakota, Missouri Valley & Western	56.6	0.4	56.2	1.7
Montana Rail Link	854.0	45.5	808.5	24.0
Montana Western	58.1	-	58.1	1.7
Rarus	31.5	6.0	25.5	.8
Union Pacific	125.8	-	125.8	3.7
TOTAL MILES	3,462.8	92.4	3,370.4	100.0
SOURCES: Track Charts and Employee Timetables of the Railroads				

Railroad Companies

Since the last study was completed in 1987, the number and ownership of lines has changed significantly, mostly through the sale or lease of lines by the Class I railroads. Joining the Burlington Northern, Central Montana Rail, Montana Western, Rarus, and Union Pacific are the Montana Rail Link (made up of former BN lines), and the Dakota, Missouri Valley & Western, leased from the CP (former Soo Line).

Burlington Northern, (BN) - Serving the western two-thirds of the United States from Seattle to Florida and Chicago to Texas, the Burlington Northern's 28,937 miles make it the nations's longest rail system covering, 25 states and two Canadian provinces. As previously indicated, about two-thirds of Montana's rail system is operated by the BN. Its traffic base in the state is primarily coal, farm products (mainly wheat), and lumber and wood products.

Central Montana Rail, (CMR) - This short line was formed in 1984 to preserve service on a 84.2 mile branch off the Burlington Northern in the central Montana Area. The BN had originally acquired the line from the Milwaukee Road in 1981 and subsequently abandoned it. The state of Montana obtained the abandoned line in 1984 in a settlement with the BN and turned it over to a nonprofit corporation for management. The primary commodities shipped on this line are farm products (grain, fertilizer).

Dakota, Missouri Valley & Western (DMVW) - Located in the far northeast corner of the state, the DMVW leases the 56.6 branch line miles in Montana from the CP (formerly Soo Line). From Whitetail in Daniels County it proceeds through Sheridan County into North Dakota. Primarily originating wheat shipments, it competes with a BN line that also crosses Daniels and Sheridan Counties just to the south.

Montana Rail Link, (MRL) - Extending from Huntley in the east to Sandpoint, Idaho, with BN trackage rights beyond Sandpoint to Spokane, Washington, this Class II railroad was formed on October 31, 1987, by the Burlington Northern's sale and lease of most of their southern main line and branches. With 843.6 route miles in Montana, the MRL effectively serves the majority of customers in the southern tier of the state. As BN's formerly Northern Pacific line, it was considered a high cost operation compared to the former Great Northern line to the north. It was spun off by the BN chiefly for economic reasons. The MRL has varied traffic. Grain, coal, lumber, and wood products are the principal products. BN does interchange much traffic to the MRL main line as it is 127 miles shorter from southeastern Montana to the BN main line at Sandpoint, Idaho. The profit ability of MRL is heavily dependent on the BN.

Montana Western, (MW) - Essentially a bridge carrier, this short line provides a connection between the MRL at Garrison and the UP and Rarus at Silver Bow. Created in 1986 from a line sale by BN, this 58-mile carrier handles primarily bridge traffic between the UP and MRL. Other traffic includes phosphate rock, fertilizer, lumber, grain, and various items to and from the Port of Montana at Butte.

Rarus, (RARW) - With the closing of the Butte, Anaconda & Pacific (BAP), ARCO (BAP's parent) donated most of the line to the state of Montana in 1985. A remaining segment was subsequently purchased by the state in the same year. In 1985 Rarus Railway was formed as a short line and leased the property from the state. The 25.29 mile mainline operates between Anaconda and Butte. Chief traffic items are copper residue, slag, and scrap.

Union Pacific, (UP) - The Union Pacific Railroad operates a 125.8 mile line from the southern border with Idaho into Silver Bow (Butte), Montana. The principal commodities transported into Montana by the UP are nonmetallic minerals (principally lead), petroleum and coal products, waste and scrap materials, stone-clay-glass-concrete products, and chemicals. The primary originating commodities transported from Montana are grain, nonmetallic minerals (mainly phosphate rock or talc), stone (mainly crushed rock), lumber and wood, and chemicals.

Butte-Anaconda Historical Park and Railroad Corporation, (BAHP) - In February 1988 the state of Montana agreed to lease the Butte Hill line to the newly formed Butte-Anaconda Historical Park and Railroad Corp. to operate a seasonal, recreational intrastate railroad for tour trains over its 8.1 route miles. The property was subsequently sold to the BAHP on December 11, 1991.

FREIGHT TRAFFIC

The seven freight railroads operating in Montana originated and terminated a large volume of non-coal traffic, as well as handled the bridging of traffic through the state. As shown in Exhibit 2-3, over 166,000 carloads on non-coal rail freight traffic were originated and terminated in Montana in 1991. Compared to 1982, this represents a 1.5 percent increase. To further interpret this small increase, it must be mentioned that the negative percentage change since 1982 for BN was significantly affected by their "spin-off" (sale,

lease, and donation) of lines to the CMR, MRL, and MW. If the carloads of the spin-off lines were included with 1991 BN carloads, there would then be only a 4,873 carload (4.2 percent) decrease. This decrease was more than offset by the increase of the DMVW (formerly Soo Line), Rarus, and UP, which amounted to 7,302 cars.

EXHIBIT 2-3
TOTAL ORIGINATING AND TERMINATING
NON-COAL CARLOADS AND TONNAGE - MONTANA 1991

RAILROAD	CARLOADS ORIGINATED	CARLOADS TERMIN-ATED	1991 TOTAL	PER-CENT	1982 CAR-LOADS	% OVER 1982	1991 NET TONS ORIGINATED	TONS TERMIN-ATED	TOTAL
Burlington Northern [1]	73,954	13,545	87,499	52.6	155,434	-43.7	6,581,044	941,632	7,522,676
Central Montana Rail [2]	1,613	31	1,644	1.0	0		161,300	3,100	164,400
Dakota, Missouri Valley & Western	1,152	0	1,152	0.7	773	49.0	149,760	0	149,760
Montana Rail Link [2]	42,024	16,652	58,676	35.3	0		3,382,102	1,005,954	4,388,056
Montana Western [2]	1,851	891	2,742	1.7	0		N/A	N/A	
Rarus [3]	2,323	84	2,407	1.4	1,407	71.1	225,749	8,173	233,922
Union Pacific	5,921	6,201	12,122	7.3	6,199	95.5	513,975	575,372	1,089,347
Total	128,838	37,404	166,242	100.0	163,813	1.5			

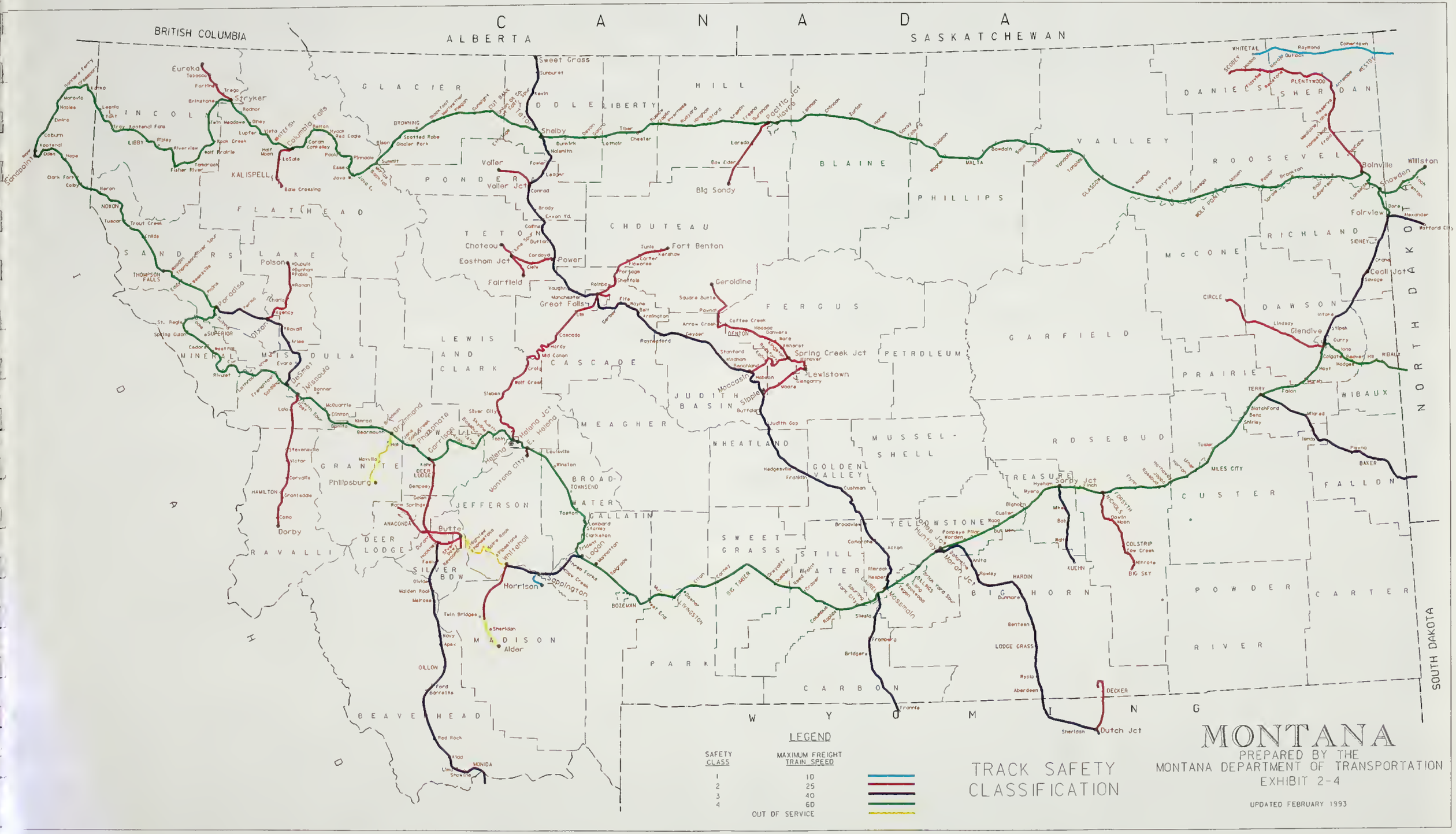
[1] Before spin-offs in Note 2
[2] Not in existence in 1982
[3] 1983 data had to be used.

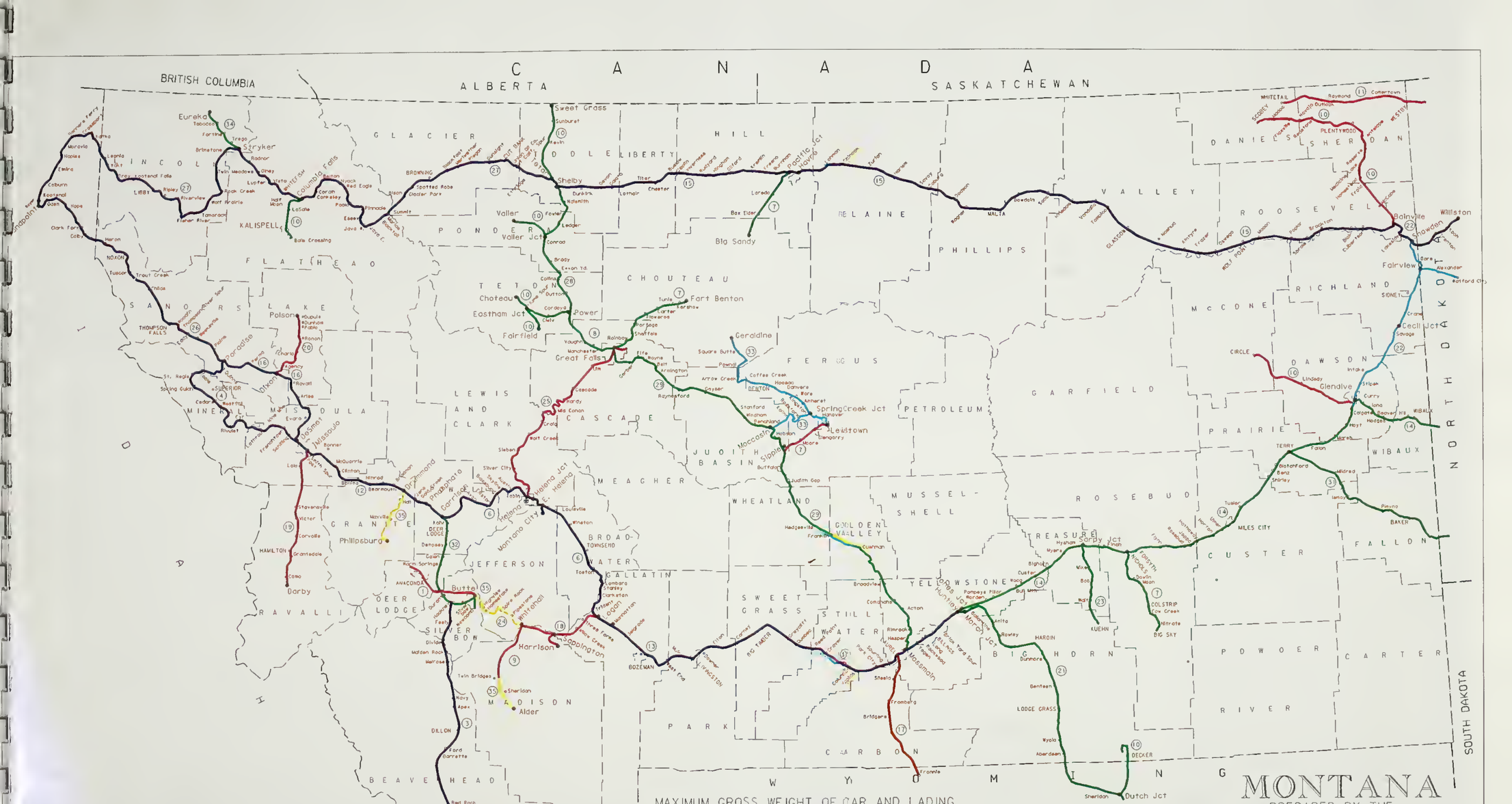
TRACK SPEED AND SAFETY CLASSIFICATION

From reviewing employee timetables, special instructions, and track charts of the seven railroads operating in Montana, it appears that the condition of the heavily trafficked main lines of the BN, MRL, and UP are still excellent as compared to the description in the *1984 Annual Update*. Maximum operating speeds between 40 and 60 miles per hour are being maintained. Exhibit 2-4 summarizes maximum speed limits (excluding speed restrictions for curves, etc.) throughout the state. The map also shows the four track safety classification categories. It should be noted that all lines, especially the branch lines, have some speed restrictions. The multitude of speed limiting factors include conditions of rail, ties, roadbed, bridges, switches, turnouts, interlockings, curves, and grades; as well as local town ordinances that have not been superseded or rescinded by the Federal Railroad Administration.

LINE CLEARANCES AND WEIGHT LIMITATIONS

Exhibits 2-5 shows weight limits and line clearance codes in the state. Exhibit 2-6 lists details for the codes shown in Exhibit 2-5. While a clearance "box" consisting of width of 12 feet and a height above rail ranging from zero to 22 feet are extremes, a more


BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
C A N A D A
NORTH DAKOTA
SOUTH DAKOTA
IDAHO
WYOMING
Sandpoint
Eureka
Tobacco Plains
Fortine
Trego
Stryker
Rexford
Libby
Troy
Kootenai Falls
Ripley
Riverview
Fisher River
Rock Creek
Golf
Prairie
Tamarack
Columbia Falls
Belton
Coram
Conrad
Paola
Essex
Java
Summit
Bear Creek
Kalispell
Bad Rock
Evergreen
Somers
Lupfer
Half Moon
Stryker
Eureka
Tobacco Plains
Fortine
Trego


BRITISH COLUMBIA
C A N A D A
ALBERTA
SASKATCHEWAN
Eureka
Tobacco
Stryker
Libby
Troy
Kootenai Falls
Columbia Falls
Whitefish
Kalispell
Bigfork
Polson
Ronan
Dixon
Paradise
Thompson Falls
Superior
Missoula
Lolo
Hamilton
Darby
Stevensville
Victor
Corvallis
Grantsdale
Phillipsburg
Drummond
Philipsburg
Deer Lodge
Anaconda
Butte
Whitehall
Harrison
Sappington
Three Forks
Twin Bridges
Sheridan
Alder
Dillon
Sweet Grass
Shelby
Valier
Valier Jct
Conrad
Choteau
Eastham Jct
Fairfield
Power
Great Falls
Fort Benton
Big Sandy
Box Elder
Malta
Glasgow
Wolf Point
Bainville
Williston
Fairview
Sidney
Richland
Cecil Jct
Circle
Glendive
Dawson
Terry
Baker
Miles City
Custer
Colstrip
Big Sky
Hardin
Crow Agency
Lodge Grass
Decker
Sheridan
Dutch Jct
Geraldine
Denton
Spring Creek Jct
Lewistown
Moccasin
Judith Gap
Hobson
Roundup
Musselshell
Golden Valley
Hedgesville
Bozeman
Livingston
Big Timber
Reed Point
Absarokee
Columbus
Laurel
Billings
Huntley
Pompeys Pillar
Worden
Acton
Condon
Molt
Broadview
Melstone
Ingomar
Forsyth
Colstrip
Sarpy Jct
Treasure
Custer
Kuehn
Wibaux
Beach
Mildred
Plentywood
Scobey
Whitetail
Raymond
Culbertson
Westby
Medicine Lake
Homestead
Froid
Peerless
Antelope
Reserve
Flaxville
Opheim
Nashua
Frazer
Oswego
Poplar
Brockton
Culbertson
Tolstad
Dagmar
Vandalia
Fortuna
Crane
Savage
Intake
Stipek
Lindsay
Curry
Iona
Colgate
Beaver Hill
Hodges
Hoyt
Marsh
Fallon
Terry
Biotenford
Benz
Shirley
Tusler
Horton
Hysham
Myers
Big Horn
Custer
Pompeys Pillar
Worden
Acton
Rimrock
Huntley
Billings

typical unrestricted clearance is 12 feet of width between two and three feet above the rail to 20 feet.[1]

EXHIBIT 2-6
RAILWAY LINE CLEARANCES IN MONTANA

MAP CODE	HT FT	HT IN	WD FT	WD IN	MAP CODE	HT FT	HT IN	WD FT	WD IN	MAP CODE	HT FT	HT IN	WD FT	WD IN	MAP CODE	HT FT	HT IN	WD FT	WD IN
1	19	0	11	6	10	20	0	12	0	19	20	0	12	0	28	20	0	10	6
	19	0	11	6		20	0	12	0		20	0	12	0		19	3	12	0
	3	3	11	6		2	0	12	0		3	9	12	0		3	6	12	0
2	16	6	9	6	11	22	0	12	0	20	20	0	12	0	29	19	9	1	11
	12	0	11	0		22	0	12	0		20	0	12	0		16	0	12	0
	3	3	11	0		2	0	12	0		3	0	12	0		5	0	12	0
3	20	0	6	5	12	20	0	7	5	21	20	0	8	8	30	20	0	8	10
	18	0	12	0		17	3	12	0		18	6	12	0		15	3	11	9
	2	6	12	0		3	6	12	0		3	3	12	0		2	6	10	10
4	20	0	8	8	13	20	0	12	0	22	20	0	10	4	31	20	0	12	0
	16	6	12	0		20	0	12	0		19	0	12	0		20	0	12	0
	2	0	12	0		2	9	12	0		2	6	12	0		3	3	12	0
5	17	6	2	0	14	20	0	10	7	23	20	0	12	0	32	19	0	12	0
	13	3	12	0		19	6	12	0		20	0	12	0		19	0	12	0
	2	9	12	0		3	6	12	0		4	0	12	0		3	6	12	0
6	20	0	8	5	15	20	0	9	11	24	20	0	12	0	33	18	0	12	0
	14	3	12	0		19	0	12	0		20	0	12	0		18	0	12	0
	4	0	12	0		3	6	12	0		3	9	12	0		0	0	12	0
7	20	0	12	0	16	20	0	12	0	25	19	0	6	2	34	20	0	12	0
	20	0	12	0		20	0	12	0		15	0	11	6		2	6	12	0
	2	0	12	0		2	6	12	0		3	3	11	6		2	0	11	8
8	19	3	9	4	17	20	0	7	8	26	20	0	9	7	35	NOT AVAILABLE			
	18	3	12	0		18	9	12	0		17	9	12	0					
	3	9	12	0		2	9	12	0		2	3	12	0					
9	20	0	12	0	18	20	0	12	0	27	20	0	5	7					
	20	0	12	0		20	0	12	0		15	3	12	0					
	2	0	12	0		2	9	12	0		3	3	12	0					

Key: Maximum Height at Width (x)
Maximum Height of Maximum Width (x)
Minimum Height of Maximum Width (x)
See Exhibit 2-5 for map codes.

Source: *Railway Line Clearances, Volume 202*, National Railway Publication Company, New York, 1992.

[1]The current issue of *The Railway Line Clearances* should be used for freight car routings rather than Exhibit 2-6 as specifications are subject to change.

The maximum gross weight restrictions noted in Exhibit 2-5 are for normal, four axle cars. Practically all branches have at least 263,000 pound maximums for cars at least 44 feet long. The main lines generally have 286-315,000 pound maximums for cars at least 52 feet in length.

INTERMODAL FACILITIES

Most intermodal traffic in Montana consists of BN east-west bridge and land bridge movements passing through the state. The BN also handles a growing amount of traffic to the inland intermodal port located at Shelby and, to a lesser extent, Butte-Silver Bow via the Montana Rail Link and Montana Western.

A major portion of UP's intermodal traffic into and out of the state is in partnership with the MW and Rarus and the inland port at Butte-Silver Bow. Reflecting national trends, intermodal traffic to and from Montana—especially the two inland ports at Shelby and Butte-Silver Bow—is growing.

Both inland and port facilities are charged by their city governments to create transportation and intermodal infrastructures to facilitate efficient transportation and the marketing of products and services at the state, national, and international levels. MDT assisted in the planning and construction of a bulk commodities transload facility adjacent to the BN main line and Interstate 15 at Shelby.

Port of Montana

Located at Butte-Silver Bow, the Port of Montana (POM) was formed in 1986. It is located between the Montana Western, Rarus, and Union Pacific Railroads; and borders North-South Interstate 15 and East-West Interstate 90. POM's strategic location allows for easy intermodal rail and highway transportation access. Operations began with a warehouse, and grain and forest products transloading facilities. Intermodal trailer and container on flat car (TOFC/COFC) capabilities were added in 1989 to help provide complete services to domestic and international shippers. A foreign trade zone was initiated in the Fall of 1992 as an additional incentive for increasing business.

Traffic has been growing at POM. Between 1990 and 1991, the facility posted a 25% increase in volume. Typical domestic products handled are lumber, fertilizer, coke, bentonite, lime, and various minerals, especially talc. Examples of export products are lumber, log homes, and talc. The Union Pacific Railroad had at least twelve truck consolidators and ocean ship lines using the port in 1991, with additional firms committed to using the facility in 1992.

Port of Shelby (Northern Express Transportation Authority)

The Northern Express Transportation Authority (NETA), formed in 1987 by Toole County and the City of Shelby, is located approximately 36 miles south of the Canadian border and about 80 miles east of Glacier National Park. It is located at the crossroads of

both the Burlington Northern's east/west and north/south main lines and the intersection of Interstate 15 and U.S. Highway 2. This intermodal gateway is similar to the POM but, besides serving regional shippers, also serves trans-border traffic between Canada and the U.S. NETA provides a bulk transload facility for handling and storing a variety of dry bulk commodities destined or originating from points in the U.S. and Canada. To accommodate growth and new markets, NETA is continuing to develop rail-side warehouse/dock capabilities along the BN main line. In September 1992, the port was granted authorization by the U.S. Department of Commerce to establish Foreign Trade Zone # 187. NETA is adjacent to BN's intermodal facility, which has full TOFC and COFC lift capabilities.

The intermodal hub handles about 25 to 35 lifts (trailers or containers) a day for domestic and international shipments. Substantial growth potential exists, especially with the recent development of containerized forest products. Further resolution of the gross vehicle weight waiver/exemption issue for Super-B train trailer units will have a major impact on the growth of the Port of Shelby business. Ultimately the long-term feasibility sustaining NETA operations is dependent on future agreements with shippers and carriers and the provisions those agreements have for long-term revenue.

In a recent development (October 1992), the Canada Ports Corporation, CN North America, and CP Rail System formed a transportation industry alliance to promote the greater use of Canadian transportation routings. This alliance, called Advantage Canada, will attempt to prevent diversion of cargoes, especially intermodal, to more competitive U.S. services such as via NETA. While it is too soon to predict how this new marketing initiative will affect POM and NETA, highway weight restrictions, cost controls, and quality of services will become even more important to these Montana intermodal ports in the future.

TRUCK SERVICE

Besides complementing rail service at freight intermodal facilities, the trucking industry serves all industrial and agricultural sectors (including Montana's growing trade and service industries) that are not located on rail lines or are better suited to TOFC/COFC service. Montana has about 1,000 registered interstate trucking companies and over 6,000 intrastate carriers. They move the majority of the total manufactured freight both inbound and outbound.

Some trucking patterns have changed in recent years as the railroads have encouraged the construction of unit train loading facilities for agricultural commodities. In many cases, grain is now being trucked longer distances to these locations in order for shippers to take advantage of volume (multiple carload) rates. The Ports of Shelby and Montana (at Butte) perform a similar service for intermodal traffic.

Montana's intermodal ports for rail and truck shipments are still in early stages of development. Still many domestic and international users benefit from cheaper rates, faster service, and single billing.

Though Billings and Columbia Falls are not "Ports", they have active intermodal services. Eureka and Missoula also have operational intermodal facilities.

Before April 1991, Canadian weights restricted some carriers from operating between the Canadian border and Shelby on Interstate 15. In April 1991 Montana and Alberta signed an agreement to allow some gross vehicle weight waiver/exemptions. This agreement allows trucks easier access to the Port of Shelby. In turn, this lessens the traffic imbalance the Burlington Northern now experiences, where considerably less truck tonnage for modal transfer comes into Montana from Alberta than goes in the reverse direction. Specifically, the tonnage transferred from rail to truck destined to Canada is twice the volume coming via truck from Alberta for transfer to rail. "A discrepancy between Montana and Alberta Gross Vehicle Weight requirements has kept Canada's most productive motor carrier units from reaching the BN main line at Shelby without underloading or transshipping at the border."[2]

There are other developments and possible changes of regulation that will have a bearing on truck and rail competition in Montana. One of these is related to implementation of IVHS (intelligent Vehicle Highway System). IVHS will improve monitoring and control of truck operations, helping to reduce violations of state and federal laws. On the positive side it can facilitate expediting Canada border crossings and even indirectly serve to help promote intermodal cooperation through the use of EDI (Electronic Data Interchange) capabilities built into IVHS for such things as freight bill data, accurate weight (weigh-in-motion) information, and other transportation related documentation. The most controversial changes in regulations relate to permitting longer combination vehicles (LCV'S). The U.S. Secretary of Transportation will review, in 1993, the present freeze on all states truck sizes or weights as brought about by the 1991 ISTEA bill.

Also affecting competition is the gradual increase in the use of three trailers or triples in the interstate corridors.

Notwithstanding these potential developments, given the trends and global interest in intermodalism, partnerships and interchanges between truck and rail continue to be emphasized.

AIR SERVICES

Montana has 114 public airports (general aviation and commercial). Seven major airports are located at Billings, Bozeman, Butte, Great Falls, Helena, Kalispell, and Missoula. Exhibit 2-7 summarizes the total air carrier/commuter flights and passengers using Montana's airports.

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[2]Shelby Intermodal Exchange Facility—A Feasibility Study. Executive Summary, p.. 10. Prepared by The Northern Express Transportation Authority; July 1991.

With the advent of airline deregulation and the continuing contraction of the federal Essential Air Services (EAS) subsidies, many southern Montana communities are facing more limited air travel options.

Currently, the seven communities receiving EAS subsidies are Lewistown, Havre, Glasgow, Sidney, Glendive, Miles City, and Wolf Point. West Yellowstone is an EAS location, but came of subsidy in about 1989.

EXHIBIT 2-7
PASSENGERS USING AIR SERVICE IN MONTANA

AIRPORT	1988	1990	1991	AIRLINES	DAILY FLIGHTS
Billings	585,094	525,523	541,691	Big Sky Continental Delta Horizon Air Northwest United	N/A 3 3 N/A 4 2
Bozeman	233,606	258,372	287,085	Continental Delta Horizon air Northwest	3 3 N/A 3
Butte	57,657	64,351	66,413	Delta Horizon air Sky West	2 6 1
Great Falls	264,304	232,231	245,632	Delta Horizon Air Northwest United	3 6-8 3 2
Helena	97,780	104,591	107,533	Delta Horizon Air Sky West	3 11 1
Kalispell	109,055	141,484	153,022	Delta Horizon Air	3 9-11
Missoula	277,160	273,738	284,224	Continental Delta Horizon air Northwest	2 3 N/A 2
TOTAL	1,624,656	1,600,290	1,685,600		
SOURCE: Montana Airport Manager's Association					

BUS SERVICE

There are seven bus lines serving Montana, mostly in the southern and central regions of the state. These carriers handle about 2.3 million annual person trips.[3] As with air service, there has been a reduction in intercity bus service. Reasons for this include low population density areas, low service frequency, increased use of personal automobiles, fewer interchanges with other carriers, and increasing costs of operations as compared to revenues. While charter and tourist business help support intercity services, freight and parcels have been a significant source of revenues—around 45 percent for some lines. Air freight and parcel delivery firms have eroded even this lucrative portion of bus business.

PIPELINE SERVICE

There are presently no major pipeline proposals that affect rail service. Coal slurry pipelines, once proposed as a competitive alternative to rail transportation no longer appear to be economically or environmentally viable. Continuing improvements in railroad productivity has resulted in a one-third average reduction in contract coal rates (in real dollars) since the Staggers Rail Act of 1980 was passed.

TRADE CORRIDORS

ISTEA includes a new federal emphasis on promoting international trade corridors and facilitating border crossings. Montana is well-positioned to serve as an agent to increasing trade with Canada. MDT has been working with the Montana Department of Commerce, University of Montana, and the Governor's office to promote north-south trade corridors through Montana to Calgary and Edmonton, Alberta and Swift Current and Regina, Saskatchewan as well.

One example of steps to improve cross-border flows is an Interstate 15 demonstration corridor between the Shelby intermodal port and the Sweetgrass-Coutts, Alberta border crossing. This demonstration will test the compatibility of U.S. highway design to Canadian vehicle size and weight limits, which are greater than those in the U.S.

GROWTH AND CHANGES IN MONTANA'S RAIL NETWORK

Since the last Montana Rail Plan Update published in 1985, several important changes have occurred that have re-shaped the rail sector of Montana's transportation system. On the negative side, abandonments since July 1985 have amounted to a loss of 120.25 route miles. (Abandonments are further discussed later in this chapter.) On the positive side, there have been some very significant changes in line ownership. In a major restructuring the Burlington Northern has sold or relinquished many lines and services to new regional and short line carriers. This includes the Montana Rail Link, Central Montana Rail, and Montana Western. The CP (former Soo Line) has leased their only line in Montana to the Dakota, Missouri Valley & Western and from the closing of the Butte,

[3]MDT July 1992, Model State Intermodal Transportation Plan Proposal

Anaconda & Pacific the Rarus Railway has emerged. Only the Union Pacific has remained unchanged since 1985.

Burlington Northern (BN)

With the cessation of service by the Milwaukee Road in 1980, the BN no longer had major railroad competition for most rail traffic originating or terminating in the state. To preserve essential services to shippers located on the Milwaukee, the BN acquired most of the Milwaukee's key operating lines. Since 1980, the BN has pursued some rationalization of former Milwaukee lines as well as some of its own in an effort to reduce high operating costs and minimal or negative cash flow from certain light density lines. This rationalization has resulted in the start-up operation of many of the lines previously discussed. While the state has not always supported the BN's decisions, some accommodations and compromises were negotiated with the BN that helped the state protect its broader interests in continuing rail services.

Montana Rail Link (MRL)

The Montana Rail Link began operations on October 31, 1987, over lines purchased or leased, with an option to purchase, from the Burlington Northern. The railroad consisted of 544.3 route miles of main line rail in Montana and Idaho, running from Huntley, through Mossmain, Helena, Missoula, St. Regis and on to Sandpoint, Idaho, but excluding the line between Helena and Phosphate, over which MRL had only bridge traffic rights. Bridge traffic only trackage rights were granted over the BN from Sandpoint to Spokane, Washington, for interchange purposes and operating convenience. Another 286.3 route miles of branch lines were also included in the transaction.

Following a challenging start-up which included several significant accidents, the railroad quickly achieved profitability. In an unusual agreement, the BN guaranteed certain minimum traffic volumes, revenues, and cars to help assure the new carrier's success and viability.

The MRL continued to grow as it purchased or leased other lines and rights from the BN, most notably the Phosphate-Helena line lease and the rights to interchange with the Montana Western at Garrison in 1992.

In that same year MRL purchased a 12 mile out-of-service line from the BN between Whitehall and Spire Rock (near Butte). MRL has restored service on the line to haul railroad ballast from a pit near Spire Rock and to serve other commercial traffic. The line may also serve as a detour route between Logan and Garrison.

In 1992, the MRL spent $28 million on capital improvements, including 100 new covered hoppers and the rebuilding of 250 box cars. For 1993, MRL expects to spend another $22 million to purchase 100 new high-cube paper cars, 17 rebuilt box cars, 8.5 miles of 136 lb. continuous welded rail (cwr), plus other relay cwr, ties, and yard improvements.

The labor flexibility, a characteristic of most short lines and regional railroads, enabled MRL to improve service and reduce operating costs in the rugged high-cost operating environment it experiences crossing the Rockies. The financial success of the new railroad is not public information since it is a closely held private corporation. The company does report that it is profitable, growing, and investing in its plant, equipment, and further improvements in services to its customers.

Central Montana Rail (CMR)

Upon the abandonment of all lines in Montana by the Milwaukee Road in 1980, the Burlington Northern purchased part of the Milwaukee Road's Lewistown - Great Falls branch line in 1981. A large portion of the line was embargoed by the BN in 1983 and the railroad filed for abandonment of the embargoed section in August 1984. Litigation between the Montana Department of Commerce, BN, and a coalition of farmers and grain shippers resulted in an out of court agreement on September 5, 1984, to establish rail service over the 66.5 mile Geraldine to Spring Creek Junction portion. The state legislated authority to acquire rail property (House Bill 815). BN donated the line to the state and agreed to pay $11.7 million in cash and state-loan repayments. From this amount a $5 million expendable trust account was established for light density line rehabilitation and operation. The line was leased to CMR, a nonprofit organization, by the state for 25 years, commencing March 12, 1985. CMR is headquartered in Denton, and the presidency of the railroad's board of directors alternates between the Denton and Geraldine areas each year. In June 1988, the BN donated the connecting Moccasin to Lewistown line to the state. In September 1988, CMR began operating over the 19.6 mile section between Moccasin and Kingston Junction line.

After some rehabilitation and startup purchases were made from the expendable trust fund, the rail line reopened for service in June 1985. Much more rehabilitation has occurred since then using monies from the trust account and matching Local Rail Freight Assistance grants. As a result, the condition of this branch line is now one of the best in Montana for a light density line.

In addition to producing significant traffic as shown in Exhibit 2-3, the railroad has had other beneficial effects on the region. Farmers no longer had to haul their grain or receive fertilizer by large trucks over long highway distances, or purchase as many big grain trucks. Grain elevators have been saved along the line as well as many jobs and the support to other local businesses. On December 15, 1992, the trust fund was dissolved and the remaining funds were transferred to CMR for their use in continued operations and maintenance. The lease was also extended to forty (40) years.

Montana Western Railway (MW)

In August 1986 two former Rarus Railway officials purchased the 58.1 mile BN line from Garrison to Butte and the Newcomb branch line at Butte. The Butte to Garrison line had previously been under a long-term lease from the Oregon Short Line Railroad. MW not only acquired all of BN's interest under that lease, but also became the exclusive operator of the property. The purchase agreement also provided for BN to continue to

supply freight equipment and to perform marketing functions for the line, thus extending existing rates and transportation contracts. The MW did not have to go through the application and review process with the ICC because of their receipt of an exemption. MW was exempted because it was originally a non-carrier which was buying track from an already established railroad. The Montana Western Railway became the first spin-off sale in the state. Operations started on September 15, 1986. The Montana state government was not involved in the sale.

Exhibit 2-3 provides some data on the amounts of business on the line, but 89 percent of its total volume is bridge traffic between Butte/Silver Bow (Rarus and UP) and Garrison (MRL). Abandonment does not seem likely in the near future as the line is maintaining adequate traffic levels. Like the CMR, the MW is interested in FRA actions which may adversely affect short lines.

Dakota, Missouri Valley & Western Railroad (DMVW)

The 56.6 mile light density line from Whitetail to the North Dakota state line in northeastern Montana is owned by and formerly operated by the Soo Line Railroad. CP Rail, the Soo's principal owner, determined in 1989 that the line from Whitetail to Flaxton, ND, was marginal and should be divested. In competitive bidding, the Dakota, Missouri Valley & Western was awarded the 20-year lease and began operations on September 1, 1990. The DMVW, based in Bismarck, North Dakota, took control of local operations and the responsibility for track maintenance, while the Soo Line continues to supply cars, plus marketing and pricing services. Exhibit 2-3 summarizes traffic on this road in 1991.

Similar to the Montana Western, the Montana government was not involved in the creation of this short line. Like many marginal lines sold off or leased by Class I railroads, there is a need for rehabilitation of certain portions of the DMVW. While MDT is possibly interested in participating in one or more rehabilitation projects which involve matching LRFA funds, DMVW management has not initiated action to develop a specific project proposal or provide the information needed to perform a cost-benefit analysis. Presently the DMVW believes that by handling over 20 cars per mile, the line will probably not face abandonment in the near term. If the North American Free Trade Agreement is favorable, new Canadian grain traffic could come to this line,[4] thus greatly improving its long term outlook. Their short term concern is similar to many other short lines, such as no more "excepted" track being allowed, discriminatory railroad retirement, high insurance costs, and a host of other regulatory burdens.

Rarus Railway (RARW)

The 31.5 mile Butte to Anaconda line was operated as the Butte, Anaconda & Pacific until 1985. Its history is colorful. Built to haul copper from mines around Butte to the smelter at Anaconda in 1894, it became the first steam railroad to electrify on economic and

[4]Opinion of DMVW Chairman in January 1993 telephone interview with Corporate Strategies, Inc. based on his discussions with local grain shippers near DMVW.

social grounds in 1912. This in turn influenced the Milwaukee Road to electrify in Montana and elsewhere. Steam slowly began to be replaced in 1952 by diesels. As electric operation maintenance became increasingly costly, and when the construction of an ore concentrator in Butte reduced tonnage, full dieselization was implemented in 1967.

The 1980's were not good for the BAP. The smelter closed in 1980, followed by the mines in 1983. When the BAP's parent, ARCO, shut down the entire facility in 1984, the railroad filed for abandonment in July. With the approval of the FRA and ICC, ARCO offered to sell the Silver Bow yard and donate the remainder of the line to the state of Montana. Purchase of the Silver Bow yard was paid with state funds. At the same time, three BAP employees formed the Rarus Railway, which was named for a Butte copper mine. On March 21, 1985, the agreement with the state was completed and the Rarus received a lease/purchase for the rail line. Operations began on May 1, 1985, and have become quite successful. The Rarus received LRFA funding along with technical assistance from Montana in the late 1980's to construct a siding to improve loading operations and main line efficiency.

With traffic expectations having been met, abandonment does not seem likely in the future. See Exhibit 2-3 for recent traffic totals. In 1991 the Rarus exercised its option and purchased the whole line. As with other short lines, it too is watching FRA proposed regulation changes, such as those noted above. None appear to reduce the present cost of regulatory burden.

ABANDONMENTS

Since 1979, 1371 net route miles have been abandoned by four carriers. The railroads attributed these abandonments to declining profitability, declining traffic base, and deteriorating line conditions. After an abandonment moratorium in the mid-1980's between the state and the Burlington Northern (BN) expired, three other branch lines have been abandoned, totaling 63.83 miles.

Exhibit 2-8 identifies the rail lines abandoned, their miles, and the year abandonment took place during the period 1979 through July 1992.

EXHIBIT 2-8
ABANDONED RAILROAD LINES IN MONTANA, 1979-1992

RAILROAD	MONTANA MILES	YEAR
Burlington Northern		
1. Haugan (19.57) -Wallace, ID (58.61)	19.30	1979
2. Glasgow AFB Spur (0.00) - (18.39)	18.39	1981
3. Golva, ND (13.40) - Carlyle (20.77)	7.37	1981
4. Silesia (9.65) - Red Lodge (44.17)	34.52	1981
5. Livingston (1.69) - Brisban (10.60)	8.91	1981
6. Montana City (222.76) - Basin (256.95)	34.19	1982
7. Sherryl Spur (0.00) - Elephant (5.12)	5.12	1982
8. Circle (50.41) - Brockway (62.02)	11.61	1983
9. Saco (0.00) - Hogeland (77.45)	77.45	1983
10. Hesper (0.00) - Rapelje (38.16)	38.16	1983
11. Choteau (29.80) - Pendroy (51.21)	21.41	1983
12. Big Sandy (32.10) - Ft. Benton (73.58)	41.48	1983
13. Fromberg (13.40) - Bridger (19.53)	6.13	1983
14. Phosphate Spur (1.07) - (4.65)	3.58	11/84
15. Lavin Spur (0.00) - (4.38)	4.38	01/85
16. Newlon Jct. (15.35) - Richey (60.73)	45.38	02/85
17. Mission (0.02) - Wilsall (22.98)	22.96	07/85
18. Manhattan (0.28) - Anceney (15.48)	15.20	09/85
19. Brazil Creek Spur (0.00) - (18.26)	18.26	04/87
20. Lewistown (1.10) - Heath (10.44)	9.34	04/89
21. Kalispell (1231.18) - Somers (1236.67)	5.49	12/90
22. Scobey (99.00) - Opheim (148.00)	49.00	07/92
TOTAL	497.63	
Milwaukee Road		
Abandoned all lines	1066.60	1980
Purchased by other carriers (BN)	-215.77	
Net abandonment of trackage	850.83	
White Sulphur Springs & Yellowstone Park		
Abandoned entire line	22.90	1980
Union Pacific		
Trackage rights between		
Silver Bow (390.02) - Butte (397.57)	7.50	1984
Operated by Montana Western	-7.50	
Net abandonment of trackage	0.00	
GRAND TOTAL	1371.36	

SOURCE: Montana Department of Transportation, 1992

RAIL-HIGHWAY CROSSING SAFETY

The MDT's Rail-Highway Safety Program is funded by federal law to provide for a safety improvement program statewide on the public road system. This program is responsible for the policy and procedure in planning, prioritization, programming and implementation of several projects each year.

Projects may include, but are not limited to, grade crossing elimination, grade crossing improvements, including installation of flashing lights or gates, circuitry upgrades and other general site improvements. Montana currently receives $1 million annually for the signalization program.

MDT staff work closely with railroad, city, county and federal officials, the general public and various committees on railroad safety issues, including Montana Operation Lifesaver.

The Montana Department of Public Service Regulation and Commission (PSC) is also involved in railroad safety programs. Aside from general supervision, the PSC does track and equipment inspections and may investigate and enforce Montana laws concerning railroads, and in some cases grade crossings.

The federal role in rail safety planning includes monitoring rail-highway crossing safety and promulgating new rules and regulations to improve safety. Railroads have the responsibility to maintain their crossings and to adhere to federal rules and regulations governing grade crossings. State policies regarding highway-rail crossing safety must support and be consistent with federal policies and objectives.

The development of a federal policy in rail-highway crossing safety began in 1927 when the U.S. Supreme Court ruled that both railroads and road users had certain rights of passage. Road users had to be careful before attempting to cross railroad tracks and the railroads had to give appropriate warning of approaching trains. It was 1934 when federal funds were first spent on rail crossing improvements.

Because of growing rail crossing accidents involving federally aided highways, the U.S. Supreme Court ruled in 1935 that funding of grade separations at crossings were primarily for the benefit of the highway users, and funding for those improvements was the responsibility of the public sector. The ICC expanded this ruling in 1964 to include warning devices.

Congress created the Highway and Rail Safety Acts of 1970 as highway crossing casualties among vehicles and trespassers grew to thousands each year even though the frequency of occurrence reflected positive safety improvements. The Act recommended increased safety improvement funding, improved accident reporting, and establishment of a national data base of grade crossing information.

In 1972, a program called "Operation Lifesaver" was initiated by the Union Pacific Railroad and the state of Idaho to promote public education and an enforcement program

to reduce accidents. In 1977 it became a national program, and an independent non-profit organization in 1986.

In addition to supporting Operation Lifesaver, the U.S. Department of Transportation initiated another program to reduce accidents in support of the Highway Safety Act of 1973. This program provided federal money to states (requiring a 10 percent match) for highway-rail safety improvements involving federal-aided highways. For the first time, states were directed how to use the funds and to establish and maintain a survey of crossings. In 1976, the Act was extended to non-federally aided highways. Succeeding Acts increased the amount of funding, including driver education through Operation Lifesaver, and the production of important statistics and reports.

MDT has maintained a grade crossing program for many years. A policy and procedure was established in 1970 for prioritization of projects. This policy was revised in 1973 and again in 1991.

Current policy prioritizes projects based on vehicular traffic times rail traffic times ten (10) factors including 1) train movement over/under 50 mph - passenger, freight, switching, 2) number of tracks, 3) sight distance, 4) approach angle, 5) highway alignment, 6) number of lanes - roadway, 7) approach grade, 8) vertical sight distance, 9) crossing width, and 10) local interference.

Crossing signal circuitry upgrades are done on a corridor project basis. Other means for initiation of projects include railroad/public input, minor projects and a new open/close policy and a railroad near-miss program. Current projects at programming state are shown in Appendix A.

The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) gave transportation planners both flexibility and encouragement "to rationalize and coordinate their transportation planning so that the strengths, weaknesses, needs and capabilities of each available mode may best be accommodated and incorporated."[5]

ISTEA expands the grade crossing safety program by providing increased funds at a state's discretion. It even allows for 100 percent funding of certain safety warning devices and improvements at crossings. This has potential for helping Montana reduce accident rates at its worst crossings. Exhibit 2-9 compares Montana's 1991 railroad grade crossing accidents with neighboring states.

[5] Gilbert E. Carmichael, FRA Administrator, U.S. Department of Transportation, speech of December 9, 1992.

EXHIBIT 2-9
COMPARISON OF MONTANA GRADE CROSSING ACCIDENTS WITH NEIGHBORING STATES

STATE	TOTAL NO. OF ACCIDENTS	ACCIDENTS INVOLVING				
		GATES	FLASHING LIGHTS	HWY. SIG. WIGWAGS	CROSSBUCKS	NON-HWY.
Montana	18	5	2	0	10	1
North Dakota	15	3	2	0	7	3
South Dakota	26	0	8	0	18	0
Wyoming	5	2	2	0	2	0
Idaho	57	2	9	0	40	6
Source: Federal Railroad Administration, Office of Safety, July 1992						

The FRA and the Federal Highway Administration are actively working on ways to better alert highway users. This research includes improved or increased use of reflectors, alerting ("DITCH") lights on locomotives, illumination, whistles (or horns), and passive signing including yield and stop signs.

FRA safety regulations currently cover track, signals and train control, motive power and equipment, operating practices, and hazardous materials. While FRA regulations do not yet directly cover highway-rail crossings, the FRA is moving in that direction. For instance, FRA regulations now cover the maintenance, inspection, and testing of grade crossing signal systems and devices and for locomotive conspicuity (attention getting appearance). The FRA has preempted some local regulations on whistle bans of public crossings, and has announced proposed crossing open/closure procedures and private crossing upgrades for signing.

Under ISTEA, the FRA is becoming more aggressive in promoting guidelines for the elimination of 25 percent of public and private at-grade (level) crossings by the year 2000. It is also promoting programs for the enforcement of traffic laws, grade crossing engineering alternatives, and Operation Lifesaver.

ISTEA provides for states and local governments "to install stop and yield signs at highway-rail crossings without automatic traffic control devices but with two or more trains per day."[6] This is the result of many drivers ignoring traditional railroad crossbucks, leading to many preventable accidents.

ISTEA increases the funding of Operation Lifesaver to $300,000 per year.

[6]Gilbert E. Carmichael, Administrator, Federal Railroad Administration, U.S. Department of Transportation, speech on December 9, 1992.

ISTEA and the other policies of FRA increase public responsibility to highway-rail crossing accidents. Reducing the problem focuses on the following ten basic points:

1. Closing 25 percent of grade crossings, especially on Amtrak routes, by the end of the 1990's.

2. Establishment of aggressive highway traffic law enforcement programs.

3. Review all new and existing crossings, their warning devices, and engineering practices.

4. Promoting the Operation Lifesaver public education program.

5. Support for government and private research efforts to improve reflectors, alerting lights, illumination, etc.

6. Insure regulations on warning device maintenance and alerting lights.

7. Resolving state, federal and railroad issues of responsibility and to seek cooperation and enthusiasm.

8. Determine and implement alternatives to train whistles, or maintain whistle requirements if no alternatives are available.

9. Establish and implement improved safety procedures for private crossings depending on their usage.

10. Increasing the use of stop or yield signs where automatic traffic control devices are not present.

The highway-rail crossing safety record for Montana has been relatively good compared to other states. However, it can always be improved, and ISTEA encourages each state to take increased initiatives.

3 - PROCEDURES FOR ANALYSIS OF RAIL FREIGHT LINES

PRO FORMA ANALYSIS

Any investment Montana may make in rail service, whether using state or federal funds, must be done with the confidence that it produces the best return to the public in the term of "hard" dollar benefits. "Soft" dollar benefits which cannot be quantified are also important, but only in marginal decisions whether to proceed with a project or choose the null (do nothing) alternative. In general, projects which compete for limited funds must do so on the basis of having the highest benefit-to-cost ratio which, in all cases, must be greater than one.

For light density lines, most projects focus on extending the life of the line or preserving service. The null alternative is usually service discontinuance or abandonment. Guidelines for evaluating line abandonments and service discontinuations are prescribed in 49CFR1152. Guidelines for determining costs and benefits of projects are described in FRA's 1990 *Benefit-Cost Methodology for the Local Rail Freight Assistance Program.*

For planning purposes, the CFR is of little value. First, many Montana branch line operators are other than Class I carriers, and their number is likely to grow. Most of these carriers do not keep records in accordance with the Uniform System of Accounts prescribed by the Interstate Commerce Commission (ICC) for either Class I or Class II railroads. Second, it is difficult to obtain geographic specific information from carriers. In some cases, carriers either do not have such information or, as private companies, they are reluctant to divulge proprietary information. Third, for planning purposes, historical costs may not be relevant.

The benefit-cost methodology guidelines do provide for flexibility on how costs are calculated. When evaluating a project, it may or may not be important that the entire affected rail line be included in the evaluation. For example, if the benefit-to-cost ratio of a project is positive, but the future of the entire line is in question, the project itself should be questioned whether the benefits will be amortized over the time frame used in the benefit-cost analysis. In this case, the entire line must be considered in the evaluation. If the future of the line is not in question, and the line outside of the project is unaffected, then the entire line need not be considered. If the benefit/cost ratio is identified as greater than one when a short time frame is used, the longer future of the line becomes less of an issue. When using a short time frame, however, it may be inappropriate to make a benefit-to-cost ratio comparison with other projects using a longer time-frame.

Because the state plays an important role in the allocation of LRFA funding, and possibly future ISTEA funding which could be used on intermodal projects, the state needs to be better prepared to perform project or line specific evaluations and analyses. One such tool is the cost/benefit model described later in Chapter 5. The other is a pro forma model which can be adapted to specific lines or even entire railroads.

As part of this rail plan, Montana has obtained proprietary rights to a more powerful version of Corporate Strategies, Inc.'s commercial Short Line Planner©. The commercial version of the Short Line Planner© has been sold to 13 states, many of which still use the model in line studies and project evaluations. The model has potential future project and planning applications under the LRFA and ISTEA.

To demonstrate the model the proposed Tongue River Railroad was analyzed using the enhanced version of the Short Line Planner©. Inputs to the model were developed from public information contained in the Tongue River Railroad Company's ICC application for authority to construct and operate a railroad from Miles City to Spring Creek, Montana, plus reasonable assumptions where information was not available in the public record.

Inputs

Though total anticipated revenues are shown in Tongue River's application, details regarding train size, tons per car, and revenue per carload were not available. To test the model, Montana used an average revenue of about 1.6 cents per ton-mile, an average of 104.5 tons per carload, and 115 car trains—reasonable assumptions for many western coal movements. Other inputs to the model are discussed in Appendix B.

Inputs to the Short Line Planner© do not attempt to represent what Tongue River management may have assumed, nor do they necessarily reflect what the state requires as needed or essential. These inputs serve only as a framework for an independent assessment of the potential viability of the Tongue River Railroad under certain assumptions contained in the ICC application.

Outputs

Outputs from the Short Line Planner© are shown in Exhibits 3-1 through 3-6. It includes the following:

- Long Term Debt Payback (Exhibit 3-1);
- Balance pro forma Balance Sheet (Exhibit 3-2);
- Cash Flow Statement (Exhibit 3-3);
- Summary of Financial and Operating Ratios (Exhibit 3-4);
- Operating Statistics (Exhibit 3-5); and,
- Pro forma Profit and Loss Statement (Exhibit 3-6).

Exhibit 3-1 summarizes long term debt repayment based on the debt assumptions shown in the inputs. Equity requirements and debt were developed based on capital needs, a 30 percent equity requirement, and sufficient cash working capital to run the railroad. The interest rate used approximates current high risk interest levels. This is the first of a

series of outputs which show the power and capabilities of the Short Line Planner©. The model has additional graphic display capabilities which are not illustrated.

Exhibit 3-2 summarizes the pro forma balance sheet under the assumptions made in this evaluation. Exhibit 3-3 is a summary of cash flow resulting from the proposed project. Under the assumptions evaluated, cash flow could be positive from the time of start-up. It is significant to point out that in a new, high leveraged project such as this, interest expense is the single largest cash item, even greater than total operating expenses. The third largest cash flow expenditure is repayment of principal.

The next exhibit, 3-4 summarizes various financial and operating ratios often used by investors and financial institutions to help evaluate the viability, safety, security, and risk of a project. Under the assumptions used, the return on equity is less than the interest rate on debt, though better than the performance of many Class I and smaller railroads.

Exhibit 3-5 summarizes operating statistics generated by the model. Finally, Exhibit 3-6 summarizes an estimate of profit and loss using assumptions stated in the application plus those used in this demonstration of the Short Line Planner©.

While the state cannot comment on the viability of the proposed project to re-route coal now moving via the BN to this shorter route, the exercise conducted in this chapter helps demonstrate whether the Tongue River Railroad, at reasonable industry revenue levels, can be a viable and profitable project (if the tonnages forecast in the application materialize). If the proposed railroad can be viable under the assumptions analyzed, it is then up to the Tongue River's investors and the Burlington Northern to negotiate terms which preserve the viability of the proposed project and also serve the BN's best interests. Even if the project is viable, the state has a public interest in any net loss of employment which could result from the efficiency of a shorter rail route. Since the proposed project would be entirely funded by private sources, the state's role at this time can only be viewed as being an interested party.

On a lesser scale, the Short Line Planner© can be used for smaller projects. The state is anxious to use its expanded analytical capabilities to work with both Class I and smaller railroads to examine projects which are in the public interest, as well as those of Montana shippers and railroads serving the state.

EXHIBIT 3 - 1
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

LONG-TERM DEBT OUTPUTS		Year 1	Year 2	Year 3	Year 4	Year 5
Loan Balance, Mid Yr:	Loan A	197,885,173	195,502,760	192,901,105	190,060,033	186,957,511
Loan Balance, End Yr:	Loan A	196,720,179	194,230,557	191,511,828	188,542,907	185,300,772
(After Principal and	Loan B	NA	NA	NA	NA	NA
Interest Payments)	Loan C	NA	NA	NA	NA	NA
	Loan D	NA	NA	NA	NA	NA
		$196,720,179	$194,230,557	$191,511,828	$188,542,907	$185,300,772
Principal Payments:	Loan A Mid Yr	1,114,827	1,217,419	1,329,452	1,451,795	1,585,396
	Loan A End Yr	1,164,994	1,272,203	1,389,277	1,517,126	1,656,739
	Loan B	NA	NA	NA	NA	NA
	Loan C	NA	NA	NA	NA	NA
	Loan D	NA	NA	NA	NA	NA
		$2,279,821	$2,489,622	$2,718,729	$2,968,920	$3,242,135
Interest Payments:	Loan A Mid Yr	8,955,000	8,852,408	8,740,375	8,618,032	8,484,431
	Loan A End Yr	8,904,833	8,797,624	8,680,550	8,552,701	8,413,088
	Loan B	NA	NA	NA	NA	NA
	Loan C	NA	NA	NA	NA	NA
	Loan D	NA	NA	NA	NA	NA
		$17,859,833	$17,650,032	$17,420,925	$17,170,734	$16,897,519

EXHIBIT 3 - 2
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

BALANCE SHEET

	End of Year					
ASSETS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Current Assets						
Cash & Short Term Invest.	$3,418,000	$4,822,794	$11,462,383	$21,118,227	$31,594,776	$42,656,149
Accounts Receivable	$0	$2,819,630	$3,216,452	$3,593,753	$3,695,260	$3,797,836
Materials & Supplies	$0	$155,295	$175,797	$197,667	$203,114	$208,417
Other	$0	$0	$0	$0	$0	$0
Total Current Assets	$3,418,000	$7,797,719	$14,854,631	$24,909,647	$35,493,150	$46,662,401
Investments & Other Assets						
Track, Bridges, Tunnels & Other Roadway Improvements	$230,000,000	$230,000,000	$230,000,000	$230,000,000	$230,000,000	$230,000,000
Buildings	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
Other Depreciable Property	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
(Accumulated Deprn)	$0	($5,987,293)	($11,974,586)	($17,961,879)	($23,949,172)	($29,936,465)
Locomotives	$11,340,000	$11,340,000	$11,340,000	$11,340,000	$11,340,000	$11,340,000
Rolling Stock	$418,000	$418,000	$418,000	$418,000	$418,000	$418,000
(Accumulated Deprn)	$0	($348,840)	($697,681)	($1,046,521)	($1,395,362)	($1,744,202)
MofE Vehicles	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000
MofW Vehicles	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
(Accumulated Deprn)	$0	($12,375)	($24,750)	($37,125)	($49,500)	($61,875)
Maint. of Way Machinery	$178,000	$178,000	$178,000	$178,000	$178,000	$178,000
(Accumulated Deprn)	$0	($14,460)	($28,919)	($43,379)	($57,838)	($72,298)
Amortizable Assets	$25,000,000	$25,000,000	$25,000,000	$25,000,000	$25,000,000	$25,000,000
(Accumulated Amort)	$0	($657,500)	($1,315,000)	($1,972,500)	($2,630,000)	($3,287,500)
Non-Depreciable Property	$3,050,000	$3,050,000	$3,050,000	$3,050,000	$3,050,000	$3,050,000
Other Investments (Net)	$0	$0	$0	$0	$0	$0
Total Invest. & Other	$270,582,000	$263,561,532	$256,541,064	$249,520,596	$242,500,128	$235,479,660
TOTAL ASSETS	$274,000,000	$271,359,251	$271,395,695	$274,430,243	$277,993,278	$282,142,061

MORE >>>

	End of Year					
LIABILITIES						
Current Liabilities	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Accounts Payable	$0	$876,370	$990,498	$1,122,881	$1,174,295	$1,228,997
Income Taxes Payable	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0
Total Current Liabilities	$0	$876,370	$990,498	$1,122,881	$1,174,295	$1,228,997
Noncurrent Liabilities						
Long-Term Debt	$199,000,000	$196,720,179	$194,230,557	$191,511,828	$188,542,907	$185,300,772
Other Noncurrent Liabil.	$0	$0	$0	$0	$0	$0
Accrued Maintenance Exp.	$0	$0	$0	$0	$0	$0
Total Noncurrent Liabil.	$199,000,000	$196,720,179	$194,230,557	$191,511,828	$188,542,907	$185,300,772
Equity						
Equity Capital	$75,000,000	$75,000,000	$75,000,000	$75,000,000	$75,000,000	$75,000,000
Capital Contributions	$0	$0	$0	$0	$0	$0
Retained Earnings	$0	($1,237,298)	$1,174,640	$6,795,535	$13,276,076	$20,612,292
Total Stockholder Equity	$75,000,000	$73,762,702	$76,174,640	$81,795,535	$88,276,076	$95,612,292
TOTAL LIABILITIES	$274,000,000	$271,359,251	$271,395,695	$274,430,243	$277,993,278	$282,142,061

EXHIBIT 3 - 3
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

CASH FLOW STATEMENT

	End of Year				
SOURCES OF CASH:	Year 1	Year 2	Year 3	Year 4	Year 5
From Operations:					
Freight Revenue	$34,305,500	$39,133,500	$43,724,000	$44,959,000	$46,207,000
Decr (Incr) in Accts Receivable	($2,819,630)	($396,822)	($377,301)	($101,507)	($102,575)
Cash Generated From Revenues	$31,485,870	$38,736,678	$43,346,699	$44,857,493	$46,104,425
Operating Expenses	$17,682,965	$19,071,530	$20,682,181	$21,307,725	$21,973,264
Adjustments to Convert to Cash Basis					
Increase in Mat., Suppl., & Other	$155,295	$20,502	$21,870	$5,447	$5,304
Depreciation Expense	($6,362,968)	($6,362,968)	($6,362,968)	($6,362,968)	($6,362,968)
Amortization	($657,500)	($657,500)	($657,500)	($657,500)	($657,500)
Accrued Maintenance	$0	$0	$0	$0	$0
Income Tax Expense	$0	$0	$0	$0	$0
Interest Expense	$17,859,833	$17,650,032	$17,420,925	$17,170,734	$16,897,519
Decr (Incr) in Accounts Payable	($876,370)	($114,129)	($132,382)	($51,415)	($54,702)
Decr (Incr) in Inc. Tax Payable	$0	$0	$0	$0	$0
Decr (Incr) in Othr Currnt Liab	$0	$0	$0	$0	$0
Cash Disbursed for Expenses	$27,801,255	$29,607,467	$30,972,125	$31,412,023	$31,800,917
Net Cash Generated by Operations	$3,684,615	$9,129,211	$12,374,573	$13,445,470	$14,303,507
From Other Sources:					
Switching and Demurrage	$0	$0	$0	$0	$0
Property and Equipment Rentals	$0	$0	$0	$0	$0
Interest and Other Income	$0	$0	$0	$0	$0
Paid in Capital or Sale of Units	$0	$0	$0	$0	$0
Increase in Debt	$0	$0	$0	$0	$0
Increase in Other Noncurrent Liab.	$0	$0	$0	$0	$0
Sale of Non-Depr Ppty & Othr Assets	$0	$0	$0	$0	$0
Cash From Other Sources	$0	$0	$0	$0	$0
Total Sources of Cash	$3,684,615	$9,129,211	$12,374,573	$13,445,470	$14,303,507
USES OF CASH:					
Payment of Debt Principal	$2,279,821	$2,489,622	$2,718,729	$2,968,920	$3,242,135
Reduction in Other Noncurrent Liab.	$0	$0	$0	$0	$0
Purchase of Non-Depreciable Property and Other Investments	$0	$0	$0	$0	$0
Purchase of Partner Units	$0	$0	$0	$0	$0
Partner Cash Distribution	$0	$0	$0	$0	$0
Total Uses of Cash	$2,279,821	$2,489,622	$2,718,729	$2,968,920	$3,242,135
NET INCREASE (DECREASE) IN CASH	$1,404,794	$6,639,589	$9,655,844	$10,476,550	$11,061,372
CASH, BEGINNING OF YEAR	$3,418,000	$4,822,794	$11,462,383	$21,118,227	$31,594,776
CASH, YEAR ENDING	$4,822,794	$11,462,383	$21,118,227	$31,594,776	$42,656,149

EXHIBIT 3 - 4
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

SUMMARY FINANCIAL AND OPERATING RATIOS

Overall Performance Measures	Year 1	Year 2	Year 3	Year 4	Year 5
After Tax Return on Total Assets	-0.5%	0.9%	2.1%	2.3%	2.6%
After Tax Return on Invested Capital	-0.5%	0.9%	2.1%	2.4%	2.6%
Return on Equity (Pre-Tax)	-1.7%	3.2%	7.1%	7.6%	8.0%
Return on Equity (After Tax)	-1.7%	3.2%	7.1%	7.6%	8.0%
Tests of Investment Utilization					
Turnover - Total Revenue / by: Assets	0.13	0.14	0.16	0.16	0.16
:Invested Capital	0.13	0.14	0.16	0.16	0.17
:Partner Equity	0.46	0.52	0.55	0.53	0.50
Capital Intensity	0.13	0.15	0.17	0.18	0.19
Tests of EOY Financial Condition					
Current Ratio	8.9	15.0	22.2	30.2	38.0
Acid-Test Ratio	8.7	14.8	22.0	30.1	37.8
Debt/Equity Ratio (1)	266.7%	255.0%	234.1%	213.6%	193.8%
Debt/Equity Ratio (2)	267.9%	256.3%	235.5%	214.9%	195.1%
Debt/Capitalization	72.7%	71.8%	70.1%	68.1%	66.0%
Fixed Charge Coverage	(0.1)	0.1	0.3	0.4	0.4
Cash Flow/Debt	1.9%	4.7%	6.5%	7.1%	7.7%
Year End Working Capital (Weeks)	9.0	20.2	35.6	52.4	69.9
Dividend Payout Ratio	0.0%	0.0%	0.0%	0.0%	0.0%
Operating Ratio - All Departments	52%	49%	47%	47%	48%
Maintenance of Way & Structures	20%	18%	17%	17%	17%
Maintenance of Equipment	3%	3%	3%	3%	3%
Transportation	15%	14%	15%	15%	14%
G & A, Marketing & Sales, Other	14%	13%	13%	13%	13%

EXHIBIT 3 - 5
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

OPERATING STATISTICS

	Projected Annual Carloads				
	Year 1	Year 2	Year 3	Year 4	Year 5
Carloads Originated					
Segment 1	0	0	0	0	0
Segment 2	162,700	181,800	200,900	200,900	200,900
Segment 3	19,100	28,700	38,300	47,800	57,400
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Subtotal - Orig	181,800	210,500	239,200	248,700	258,300
Carloads Terminated					
Segment 1	0	0	0	0	0
Segment 2	0	0	0	0	0
Segment 3	0	0	0	0	0
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Subtotal - Term	0	0	0	0	0
Subtotal - O & T	181,800	210,500	239,200	248,700	258,300
Bridge Carloads	0	0	0	0	0
Total Carloads -	181,800	210,500	239,200	248,700	258,300
	Total Freight Revenue, Adjusted for Inflation				
Originated Traffic					
Segment 1	$0	$0	$0	$0	$0
Segment 2	$31,822,500	$35,402,500	$38,745,000	$38,745,000	$38,745,000
Segment 3	$2,483,000	$3,731,000	$4,979,000	$6,214,000	$7,462,000
Segment 4	$0	$0	$0	$0	$0
Segment 5	$0	$0	$0	$0	$0
Subtotal - Orig	$34,305,500	$39,133,500	$43,724,000	$44,959,000	$46,207,000
Terminated Traffic					
Segment 1	$0	$0	$0	$0	$0
Segment 2	$0	$0	$0	$0	$0
Segment 3	$0	$0	$0	$0	$0
Segment 4	$0	$0	$0	$0	$0
Segment 5	$0	$0	$0	$0	$0
Subtotal - Term	$0	$0	$0	$0	$0
Subtotal - O & T	$34,305,500	$39,133,500	$43,724,000	$44,959,000	$46,207,000
Bridge Traffic	$0	$0	$0	$0	$0
Total Frt Revenue	$34,305,500	$39,133,500	$43,724,000	$44,959,000	$46,207,000

EXHIBIT 3 - 5
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

OPERATING STATISTICS

Switching Revenue (Adjusted for Inflation)

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	$0	$0	$0	$0	$0
Segment 2	$0	$0	$0	$0	$0
Segment 3	$0	$0	$0	$0	$0
Segment 4	$0	$0	$0	$0	$0
Segment 5	$0	$0	$0	$0	$0
Total	$0	$0	$0	$0	$0

Trains Operated - (Each Way)

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	3,164	3,664	4,164	4,330	4,497
Segment 2	2,831	3,164	3,497	3,497	3,497
Segment 3	332	499	667	832	999
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0

Car Miles (Ldd and Mty)

Segment 1	26,542,800	30,733,000	34,923,200	36,310,200	37,711,800
Segment 2	16,270,000	18,180,000	20,090,000	20,090,000	20,090,000
Segment 3	267,400	401,800	536,200	669,200	803,600
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	43,080,200	49,314,800	55,549,400	57,069,400	58,605,400

Gross Tons (1000's) Per Mile of Road

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	29,906	34,627	39,348	40,911	42,490
Segment 2	26,764	29,906	33,048	33,048	33,048
Segment 3	3,142	4,721	6,300	7,863	9,442
Segment 4	NA	NA	NA	NA	NA
Segment 5	NA	NA	NA	NA	NA

Gross Ton-Miles (1000's)

Segment 1	2183145.3	2527789.25	2872433.2	2986513.95	3101795.55
Segment 2	1338207.5	1495305	1652402.5	1652402.5	1652402.5
Segment 3	21993.65	33048.05	44102.45	55041.7	66096.1
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	3,543,346	4,056,142	4,568,938	4,693,958	4,820,294

Ave Car-Miles per Train-Mile (Loaded and Empty)

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	114.9	114.9	114.9	114.9	114.9
Segment 2	114.9	114.9	114.9	114.9	114.9
Segment 3	114.9	114.9	114.9	114.9	114.9
Segment 4	NA	NA	NA	NA	NA
Segment 5	NA	NA	NA	NA	NA

Train-Miles

Segment 1	230,994	267,467	303,940	316,098	328,255
Segment 2	141,561	158,215	174,870	174,870	174,870
Segment 3	2,327	3,496	4,666	5,823	6,993
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	374,882	429,179	483,476	496,791	510,118

Ave Gross Trailing Tons per Train

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	9,451	9,451	9,451	9,448	9,449
Segment 2	9,453	9,451	9,449	9,449	9,449
Segment 3	9,452	9,452	9,452	9,452	9,452
Segment 4	NA	NA	NA	NA	NA
Segment 5	NA	NA	NA	NA	NA

Number of Employees (Full-time equivalent)

M of W & S	13.4	16.8	20.2	24.5	29.3
M of E	12.0	13.0	14.0	15.0	16.0
Trans	18.0	20.0	24.0	24.0	24.0
M & S	1.0	1.0	1.0	1.0	1.0
G & A	8.0	9.0	9.0	9.0	10.0
Total	52.4	59.8	68.2	73.5	80.3

Maint. of Way & Structures - Expenses per Mile of Road

	Year 1	Year 2	Year 3	Year 4	Year 5
Lbr/Fringe	$3,450	$4,245	$5,040	$6,097	$7,229
Matls/Svcs	$3,167	$4,143	$6,051	$7,070	$8,046
Eqpt Lease	$0	$0	$0	$0	$0
Deprcn	$46,189	$46,189	$46,189	$46,189	$46,189
Total	$52,805	$54,577	$57,279	$59,356	$61,464

Segment Miles

	Seg 1	Seg 2	Seg 3	Seg 4	Seg 5	Total
(Main Trk)	73.0	50.0	7.0	0.0	0.0	130.0

EXHIBIT 3 - 5
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

OPERATING STATISTICS

Road Train Hours: Switching and Idle

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	0	0	0	0	0
Segment 2	4,955	5,538	6,120	6,120	6,120
Segment 3	582	0	0	0	0
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	5,536	5,538	6,120	6,120	6,120

Road Train Hours: Running

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	5,775	6,687	7,599	7,902	8,206
Segment 2	3,539	3,955	4,372	4,372	4,372
Segment 3	58	87	117	146	175
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	9,372	10,729	12,087	12,420	12,753

Road Train-Hours: Total

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	5,775	6,687	7,599	7,902	8,206
Segment 2	8,494	9,493	10,492	10,492	10,492
Segment 3	640	87	117	146	175
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	14,908	16,267	18,207	18,540	18,873

Road Locomotive Unit-Miles

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	692,983	802,402	911,820	948,293	984,766
Segment 2	424,683	474,646	524,609	524,609	524,609
Segment 3	6,981	10,489	13,998	17,470	20,978
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	1,124,647	1,287,537	1,450,427	1,490,372	1,530,353

Yard Locomotive Unit-Hours (1 Unit Assumed)

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	0	0	0	0	0
Segment 2	0	0	0	0	0
Segment 3	0	0	0	0	0
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	0	0	0	0	0

Road Locomotive Unit-Hours: Switching and Idle

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	0	0	0	0	0
Segment 2	14,864	16,613	18,361	18,361	18,361
Segment 3	1,745	0	0	0	0
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	16,609	16,613	18,361	18,361	18,361

Road Locomotive Unit-Hours: Running

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	17,325	20,060	22,796	23,707	24,619
Segment 2	10,617	11,866	13,115	13,115	13,115
Segment 3	175	262	350	437	524
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	28,116	32,188	36,261	37,259	38,259

Road Locomotive Unit-Hours: Total

	Year 1	Year 2	Year 3	Year 4	Year 5
Segment 1	17,325	20,060	22,796	23,707	24,619
Segment 2	25,481	28,479	31,477	31,477	31,477
Segment 3	1,920	262	350	437	524
Segment 4	0	0	0	0	0
Segment 5	0	0	0	0	0
Total	44,725	48,801	54,622	55,621	56,620

EXHIBIT 3 - 6
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

PROFIT AND LOSS STATEMENT **REVENUE**	Year 1	Year 2	Year 3	Year 4	Year 5
Freight					
Originating	34,305,500	39,133,500	43,724,000	44,959,000	46,207,000
Terminating	0	0	0	0	0
Bridge	0	0	0	0	0
Subtotal - Freight Revenue	$34,305,500	$39,133,500	$43,724,000	$44,959,000	$46,207,000
Switching	0	0	0	0	0
Demurrage	0	0	0	0	0
Property Rents	0	0	0	0	0
Interest and Other	0	0	0	0	0
Car Hire Income	0	0	0	0	0
Subtotal - Other Income	$0	$0	$0	$0	$0
TOTAL REVENUE & OTHER INCOME	$34,305,500	$39,133,500	$43,724,000	$44,959,000	$46,207,000
EXPENSES					
Maintenance of Way & Structures					
Direct Labor	315,800	388,600	461,400	558,200	661,800
Fringe Benefits	132,636	163,212	193,788	234,444	277,956
Materials, Supplies, Other					
Ties	950	1,900	2,850	3,800	4,750
Rail	2,250	2,250	2,250	2,250	2,250
Ballast	6,500	6,500	6,500	13,000	13,000
Other Track Material	6,000	7,000	8,000	9,000	11,000
Small Tools and Oper. Supplies	4,000	6,000	7,000	8,000	9,000
Structures Maintenance	1,000	2,000	3,000	4,000	5,000
Vegetation Control	20,000	20,000	20,000	20,000	20,000
Crossings and Signals	5,000	5,000	5,000	5,000	5,000
Accrued Maintenance Expense	0	0	0	0	0
Contract Maintenance Expense	366,000	488,000	732,000	854,000	976,000
Leases:					
MofW Machinery	0	0	0	0	0
Vehicles	0	0	0	0	0
Depreciation:					
Track, Signals, Communicatn	3,420,000	3,420,000	3,420,000	3,420,000	3,420,000
Bridges, Other Rdwy Impr	2,548,000	2,548,000	2,548,000	2,548,000	2,548,000
Buildings	16,450	16,450	16,450	16,450	16,450
MofW Machinery	14,460	14,460	14,460	14,460	14,460
Vehicles	5,625	5,625	5,625	5,625	5,625
Subtotal, M of W	$6,864,671	$7,094,997	$7,446,323	$7,716,229	$7,990,291
Exp./Mi of Rd, Excl Deprn Trk & Struc	$6,771	$8,543	$11,245	$13,321	$15,430

EXHIBIT 3 - 6
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

EXPENSES (Cont'd)	Year 1	Year 2	Year 3	Year 4	Year 5
Maintenance of Equipment					
Direct Labor	311,000	336,000	361,000	386,000	411,000
Fringe Benefits	130,620	141,120	151,620	162,120	172,620
Materials, Supplies, Other					
Small Tools and Oper. Supplies	7,000	8,000	9,000	9,000	10,000
Parts for Equipment Maintenance	5,000	5,000	6,000	8,000	10,000
Freight Car Equipment Maintenance	0	0	0	0	0
Locomotive Running Maintenance	0	0	0	0	0
Locomotive Heavy Maintenance	0	0	0	50,000	100,000
Loco Contract Maintenance	240,000	240,000	240,000	240,000	240,000
Other Locomotive Repair	12,000	12,000	12,000	12,000	12,000
Equipment Leases:					
Locomotives	0	0	0	0	0
Rolling Stock	0	0	0	0	0
Vehicles	0	0	0	0	0
Depreciation:					
Locomotives	328,860	328,860	328,860	328,860	328,860
Rolling Stock	19,980	19,980	19,980	19,980	19,980
Vehicles	6,750	6,750	6,750	6,750	6,750
Subtotal M of E	$1,061,210	$1,097,710	$1,135,210	$1,222,710	$1,311,210
Marketing and Sales					
Direct Labor	40,000	40,000	40,000	40,000	40,000
Fringes	16,800	16,800	16,800	16,800	16,800
Other	0	0	0	0	0
Subtotal Marketing & Sales	$56,800	$56,800	$56,800	$56,800	$56,800
Transportation					
Road					
Enginemen	315,000	350,000	420,000	420,000	420,000
Trainmen	315,000	350,000	420,000	420,000	420,000
Station Agency	0	0	0	0	0
Clerical	0	0	0	0	0
Fringe Benefits	264,600	294,000	352,800	352,800	352,800
Train Supplies & Exp.	129,241	147,944	166,648	171,208	175,816

EXPENSES (Cont'd)	Year 1	Year 2	Year 3	Year 4	Year 5
Yard					
Enginemen	0	0	0	0	0
Groundsmen	0	0	0	0	0
Other Yard Personnel	0	0	0	0	0
Clerical	0	0	0	0	0
Fringe Benefits	0	0	0	0	0
Communications Eqpt. Maintenance	4,000	4,000	4,000	4,000	4,000
Fuel	3,695,434	4,183,325	4,705,421	4,824,579	4,944,616
Frt Claims,% of Frt Rev	171,528	195,668	218,620	224,795	231,035
Derailments & Injuries	93,721	107,295	120,869	124,198	127,529
Contract Services - C&S	20,000	20,000	20,000	20,000	20,000
Joint Facilities Rents	0	0	0	0	0
Subtotal Transportation	$5,008,523	$5,652,231	$6,428,358	$6,561,580	$6,695,797
General and Administrative					
General Manager	70,000	70,000	70,000	70,000	70,000
Administrative Assistant	60,000	90,000	90,000	90,000	90,000
Other Office Personnel	100,000	100,000	100,000	100,000	120,000

EXHIBIT 3 - 6
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

EXPENSES (Cont'd)	Year 1	Year 2	Year 3	Year 4	Year 5
Fringe Benefits	96,600	109,200	109,200	109,200	117,600
Freight Car Accounting	115,080	132,300	149,520	155,220	160,980
Interline Settlements	60,540	69,150	77,760	80,610	83,490
Insurance - General Liability	303,216	326,952	355,488	370,104	387,936
Fire, Theft, Rolling Stock	25,000	25,000	25,000	25,000	25,000
Travel & Entertainment	3,000	3,000	3,000	3,000	3,000
Outside Accounting/Auditing	25,000	25,000	25,000	25,000	25,000
Legal Services	15,000	15,000	15,000	15,000	15,000
Automobile Expenses	5,000	5,000	5,000	5,000	5,000
Rentals - Buildings and Property	0	0	0	0	0
Office Expenses (Phone, Suppl, Misc)	4,000	5,000	5,000	6,000	7,000
Utilities	15,000	15,000	15,000	15,000	15,000
Lease	0	0	0	0	0
Depreciation - Office or Computer Eq.	2,843	2,843	2,843	2,843	2,843
Amortization - Amortizable Asset	657,500	657,500	657,500	657,500	657,500
Subtotal General	$1,557,779	$1,650,945	$1,705,311	$1,729,477	$1,785,349
Other Expenses					
Car-Hire	2,323,424	2,667,845	3,012,265	3,104,795	3,198,299
Property Taxes	500,000	500,000	500,000	500,000	500,000
Contingency	310,558	351,002	397,914	416,134	435,518
Subtotal Other	$3,133,982	$3,518,846	$3,910,179	$4,020,929	$4,133,818
SUBTOTAL - OPERATING EXPENSES	$17,682,965	$19,071,530	$20,682,181	$21,307,725	$21,973,264

	Year 1	Year 2	Year 3	Year 4	Year 5
INCOME (LOSS) BEFORE INTEREST EXPENSE AND INCOME TAXES (NROI)	$16,622,535	$20,061,970	$23,041,819	$23,651,275	$24,233,736
Interest Expense on Long-Term Debt	17,859,833	17,650,032	17,420,925	17,170,734	16,897,519
INCOME (LOSS) BEFORE INCOME TAXES	($1,237,298)	$2,411,938	$5,620,894	$6,480,541	$7,336,217
Income Tax Expense					
Current Federal Taxes	0	0	0	0	0
Current State, Local Taxes	0	0	0	0	0
Net Income Tax Payments	$0	$0	$0	$0	$0
NET INCOME (LOSS)	($1,237,298)	$2,411,938	$5,620,894	$6,480,541	$7,336,217
Retained Earnings - Beginning of Year	$0	($1,237,298)	$1,174,640	$6,795,535	$13,276,076
Less:Partner Cash Distr.	$0	$0	$0	$0	$0
Retained Earnings	($1,237,298)	$1,174,640	$6,795,535	$13,276,076	$20,612,292
Net Income (Loss) Per Partner Unit	($0.16)	$0.32	$0.75	$0.86	$0.98
Cash Distribution Per Partner Unit	$0.00	$0.00	$0.00	$0.00	$0.00
Tax Loss Carry Forward, Beginning of Yr	$0	($1,237,298)	$0	$0	$0

4 - LINE ANALYSIS

BURLINGTON NORTHERN

The BN is, by far, the dominant rail carrier in Montana with 2,244.2 miles of track or 66 percent of total state trackage. The BN is the nation's longest rail system with almost 29,000 miles of line in 25 states and two Canadian provinces.

Commodities carried by BN within the state are dominated by coal. Major mines served by the BN and estimates of tonnages shipped by BN are summarized in Exhibit 4-1.[1]

EXHIBIT 4-1
PRINCIPAL COAL PRODUCTION AND SHIPMENTS VIA BN

Mine	Location	Owner	BN Subdivision	Production (Millions of Tons)			
				1988	1989	1990	1991
East Decker	Decker	Decker Coal	Dutch	3.655	3.583	9.818	10.586
West Decker	Decker	Decker Coal	Dutch	7.069	6.495		
Rosebud	Big Sky	Western Energy	Colstrip	16.156	13.677	12.487	13.520
Absalaka	Kuehn	Westmoreland	Sarpy	3.305	4.011	3.961	4.119
Big Sky	Big Sky	Peabody	Colstrip	3.788	3.715	3.612	3.149
Spring Creek	Decker	NERCO	Dutch	4.704	5.979	5.059	4.896
Savage	Savage	Knife River	Forsyth	.228*	.295*	.177*	.225*
Total Shipments				38.677#	37.460#	34.937#	36.270#

*Consumed locally—not shipped by BN
#Excludes Savage Coal
Source: 1991 Keystone Coal Industry Manual and Federal Energy Regulatory Commission 423 and 580 reports.

Coal fields in the state occupy 35 percent of the land area, giving Montana the largest reserves of coal of any state. Most of the coal is sub-bituminous, with heating values ranging from 5600 BTU's per pound (Ft. Union field), up to 14,000 BTU's per pound for bituminous coal in the Tertiary Basin field. Ninety percent of current production is from the Powder River Region, currently served exclusively by the BN. Over 50 billion tons of strippable reserves exist in eastern Montana, assuring both the state and the BN a long term future for coal traffic. With over 36 million tons shipped in 1991, average number of coal trains originating on the BN in Montana, alone, is about 8.3 trains per day. Several additional coal trains originate in Northern Wyoming, mostly for westbound bridge movement via the Montana Rail Link.

[1]Because the tonnage was obtained from public records, they are not considered proprietary information.

Grain and other food products and lumber and wood products also represent significant commodity traffic. A detailed review of BN freight traffic for other commodities is shown in Exhibit 4-2. As in previous years, originating traffic is dominant over terminating traffic.

In 1992, BN lines were divided into the Montana and Denver Divisions. Within these divisions are subdivisions which further segment the main lines and categorize the many branch lines. Exhibit 4-3 summarizes the freight (excluding coal) handled on the lines in 1991. The average of all BN non-coal originating and terminating freight in Montana for 1991 calculates to average 39 cars originated or terminated per mile of route or 3,352 tons per mile, excluding coal and bridge traffic which neither originates or terminates in the state. This rail plan update will describe and analyze all subdivisions for which information is available.

EXHIBIT 4-2
PRINCIPAL COMMODITIES CARRIED BY
THE BURLINGTON NORTHERN RAILROAD IN MONTANA - 1991

COMMODITY	TONS OF REVENUE FREIGHT			PERCENT	
	ORIGINATING	TERMINATING	TOTAL	ORIGINATING	TERMINATING
Coal	36,270,000	-	36,270,000	84.6	0.0
Farm Products	4,060,524	61,071	4,121,595	9.5	6.5
Lumber & Wood Products	812,388	9,665	822,053	1.9	1.0
Non-Metallic Minerals	231,560	446,718	678,278	0.5	47.5
Petroleum & Coal Products	450,997	82,461	533,458	1.1	8.8
Stone, Clay, Glass	286,062	140,314	426,376	0.7	14.9
Pulp & Paper	326,721	4,210	330,931	0.8	0.4
Chemicals & Allied Products	158,085	97,642	255,727	0.4	10.4
Food & Kindred Products	206,267	32,584	238,851	0.5	3.5
Primary Metal Products	20,640	7,267	27,907	-	0.8
Hazardous Waste	5,217	202	5,419	-	-
Fabricated Metal Products	466	4,231	4,697	-	0.4
Metallic Ores	0	4,233	4,233	-	0.4
All Others*	22,117	51,034	73,151	-	5.4
TOTAL	42,851,044	941,632	43,792,676	100.0	100.0

*Includes intermodal, specialty, and government shipments
Source: Burlington Northern Railroad, Helena, MT

EXHIBIT 4-3
ANALYSIS OF TRAFFIC ORIGINATED AND TERMINATED ON THE BURLINGTON NORTHERN RAILROAD SUBDIVISIONS IN MONTANA FOR 1991 (EXCLUDING COAL)

SUBDIVISION	MILES	REVENUE CARLOADS ORIGINATED	REVENUE CARLOADS TERMINATED	SUBTOTAL	PERCENT OF TOTAL	CARS PER MILE
MONTANA	2,014.5	70,662	13,476	84,138	96.2	41.8
DENVER	229.7	3,292	69	3,361	3.8	14.6
TOTAL	2,244.2	73,954	13,545	87,499	100.0	39.0
SUBDIVISION	MILES	NET TONS ORIGINATED	NET TONS TERMINATED	SUBTOTAL	PRECENT OF TOTAL	TONS PER MILE
MONTANA	2,014.5	6,268,610	935,686	7,204,296	95.8	3,576
DENVER	229.7	312,434	5,946	318,380	4.2	1,386
TOTAL	2,244.2	6,581,044	941,632	7,522,676	100.0	3,352

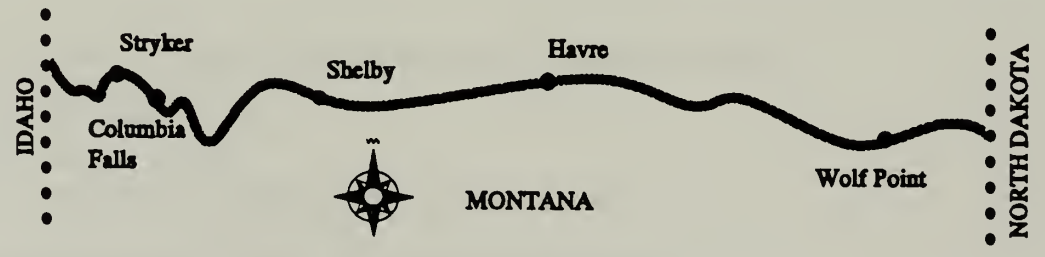
SOURCE: Burlington Northern Railroad

MONTANA DIVISION

Northern Corridor - Kootenai, Hi Line, Milk River, and Glasgow Subdivisions

Stretching 675.6 miles from border to border through the northern counties, the BN's mainline is a quality, heavy duty, excellently maintained line. Of the 2,244.2 BN miles in Montana, this line alone accounts for 30 percent of the mileage. All track is FRA Class 4 with 132 pound rail predominant, with some 115 pound and 136 pound rail. Maximum speeds are 60 MPH for freight an 79 MPH for passenger. The line is partially double tracked and has numerous other passing tracks to accommodate the many long distance and local freight trains, and the two daily Amtrak trains which run over this line. Exhibit 4-4 illustrates this important line.

EXHIBIT 4-4
KOOTENAI, HI LINE, MILK RIVER, AND GLASGOW SUBDIVISIONS



Rail Traffic

Traffic on the northern main line is highly varied, most of which represents bridge traffic between the state's east/west borders. There are numerous trailer and double stack container intermodal trains as well as grain unit trains. Little coal moves via this line. General merchandise trains haul large volumes of lumber and wood products, food products, building materials, chemicals, petroleum products, metallic and non-metallic minerals and ores, and pulp and paper. As Exhibit 4-5 details, in 1991, 30,378 carloads were originated and 9,908 terminated. This amounts to 46 percent of all BN originated and terminated freight in Montana. The 1991 tonnage was 2,617,760 originated and 638,231 terminated. Similar to carloads, tonnage on the main line accounted for 43 percent of BN's total originated and terminated freight within the state.

Rail Status

BN plans to continue to upgrade this line with more concrete ties and the use of more advanced Automated Train Control System (ATCS) technology to manage the movement of trains. Much of BN's "non-operating" employment in Montana is located in Havre. In 1992 they eliminated 190 of 250 locomotive repair shop jobs in order to save $9 million per year. This action reduced the company's Havre work force from 820 to 630, a 23 percent reduction.

EXHIBIT 4-5
RAILROAD TRAFFIC STATISTICS - 1991
SNOWDEN TO LEONIA - BN MONTANA SUBDIVISIONS
KOOTENAI, HILINE, MILK RIVER, AND GLASGOW

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	30,378	9,908	40,286	59.6
Percent	75	25		-
Tonnage	2,617,760	638,231	3,255,991	4,819
Percent	80	20		100

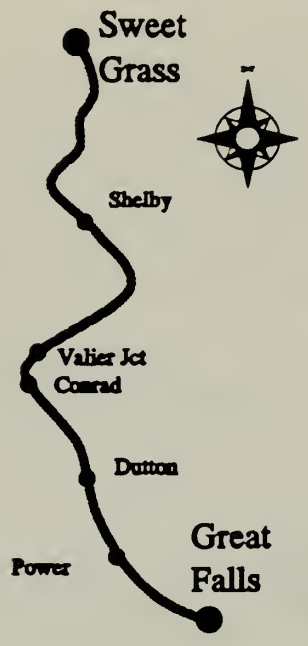
1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 675.6
Carloads Per Week: 774.7
Tons Per Week: 62,615
Source: Burlington Northern Railroad, Helena, MT

Great Falls to Sweet Grass, Sweet Grass Subdivision

After the BN's major east-west mainline, the Great Falls to Sweet Grass main line is their most important line for originating and terminating non-coal freight. While its

136.5 miles represent only 6 percent of BN's Montana trackage, it is strategic in connecting with CP Rail at the Canadian border (Sweet Grass), with the major main line at Shelby, and southward to the important junction city of Great Falls. Track is mostly 115 pound rail with some 112 pound rail. Maximum speeds vary between 40 and 49 MPH. The line is single track for the entire route but does have numerous passing sidings to accommodate daily long and short distance freights. Exhibit 4-6 illustrates this important line.

EXHIBIT 4-6
SWEET GRASS SUBDIVISION



Rail Traffic

The vast majority of local traffic on the line is grain and, to a lesser extent, fertilizer. As the vital link between the northern main line and lines radiating from Great Falls, it also hauls connecting coal and general merchandise traffic, reportedly including such commodities as propane, butane, and sulphur. Exhibit 4-7 summarizes 1991 railroad traffic statistics. A total of 9,283 carloads (893,822 tons) were originated and 658 (57,698 tons) were terminated. This equates to 72.8 cars per mile and 6,971 tons per mile of line.

EXHIBIT 4-7
RAILROAD TRAFFIC STATISTICS - 1991
Great Falls to Sweet Grass
BN Montana Sweet Grass Subdivision

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	9,283	658	9,941	72.8
Percent	93	7	100	-
Tonnage	893,822	57,698	951,520	6,971
Percent	94	6	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 136.5
Carloads Per Week: 191.2
Tons Per Week: 18,298
Source: Burlington Northern Railroad

Great Falls to Mossmain, Laurel Subdivision

The Great Falls to Mossmain main line is also very important to the BN for both originating and terminating freight, and also for bridging traffic between the northern and southern portions of the state. The line is 222.7 miles long, connecting with the Sweet Grass Subdivision at Great Falls with the Southern Tier mainline (BN and Montana Rail Link) at Mossmain and Laurel. This line accounts for 10 percent of BN's miles in Montana. The single track with some passing sidings are composed mostly of 112 and 115 pound rail and has a maximum speed of 49 MPH. Exhibit 4-8 depicts this line.

Rail Traffic

The bulk of originating and terminating traffic is grain with fertilizer a distant second. As with the Sweet Grass Subdivision, it is part of the vital link between important main lines and bridges traffic from the Laurel to BN's Wyoming lines. Exhibit 4-9 details traffic statistics for 1991. There were 6,792 carloads originated and 1,175 terminated, totalling 614,130 and 90,100 tons respectively. These figures average to 35.8 cars per mile and 3,162 tons per mile.

EXHIBIT 4-8
LAUREL SUBDIVISION

EXHIBIT 4-9
RAILROAD TRAFFIC STATISTICS - 1991
GREAT FALLS TO MOSSMAIN - BN MONTANA LAUREL SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	6,792	1,175	7,967	35.8
Percent	85	15	100	-
Tonnage	614,130	90,100	704,230	3,162
Percent	85	13	98	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 222.7
Carloads Per Week: 153.2
Tons Per Week: 13,543
Source: Burlington Northern Railroad

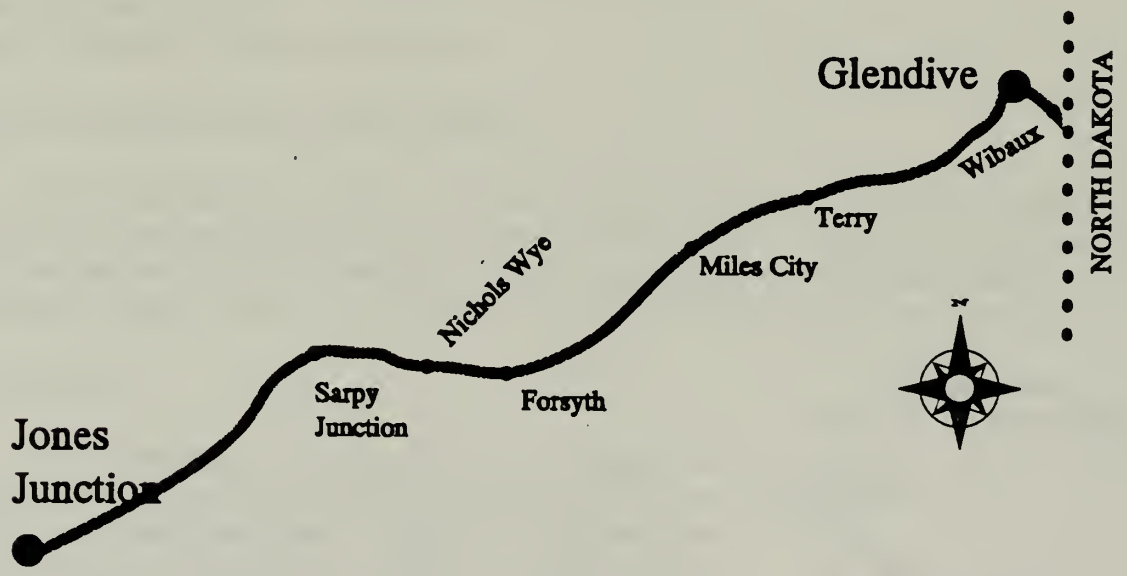
Helena Junction to Phosphate, Formerly 6th Subdivision; Glendive to North Dakota State Line, Dickinson Subdivision (Yellowstone Division)

Information on these two Category 5 main lines was unavailable for 1991. However, these 51.8 and 38.5 mile lines, respectively, have been important in bridging freight from other subdivisions and railroads. In 1992, the Helena Jct. to Phosphate line was leased to the Montana Rail Link, thus providing a continuous route over its main line. This line is illustrated in Exhibit 4-50 for MRL. The Glendive line is included in Exhibit 4-10.

Glendive to Jones Junction, Forsyth Subdivision (Yellowstone Division)

Primarily a coal hauling main line from mines in southeastern Montana, the Glendive to Jones Junction line is also very important for interchanging with Montana Rail Link and with BN traffic from Wyoming, and connecting to eastbound lines at Glendive, principally the Dickinson and Snowden Subdivisions. Therefore, while its 209.6 miles represent 9 percent of BN's Montana trackage and only 2.7 percent of on-line non-coal freight, it is nonetheless an important main line. Its high volume of coal accounts for the 132 pound continuous welded rail (CWR) and long passing sidings. Speeds up to 60 MPH are permitted on this and the Glendive to North Dakota lines. Loaded coal trains are restricted to 45 MPH, though the railroad has been experimenting with 50 MPH speeds. Exhibit 4-10 illustrates this busy line.

EXHIBIT 4-10
FORSYTH SUBDIVISION



Rail Traffic

Coal dominates this particular stretch of main line. Most coal originates from mines on the Sarpy, Big Sky, and Dutch Subdivisions. Principal originating and terminating non-coal traffic is comprised of grain, glass mince, clay, pulp, and fertilizer. Exhibit 4-11 shows that the line's 1,687 originations (140,097 tons) and 671 terminations (61,153 tons) account for 2.7 percent of BN's non-coal totals for Montana. This represents 11.3 cars per mile and 963 tons per mile.

EXHIBIT 4-11
RAILROAD TRAFFIC STATISTICS - 1991
GLENDIVE TO JONES JUNCTION - BN MONTANA FORSYTH SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	1,687	671	2,358	11.3
Percent	72	28	100	-
Tonnage	140,097	61,153	201,250	963
Percent	70	30	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 209.6
Carloads Per Week: 45.4
Tons Per Week: 3,870
Source: Burlington Northern Railroad

Stryker to Eureka, Eureka Subdivision

Branching off from BN's major east-west main line, the Stryker to Eureka line is notable for being totally dependent on forest products. Its 23.2 single track miles represent only one percent of BN's Montana trackage and consists of 110-115 pound rail. The maximum speed is limited to 25 MPH. Exhibit 4-12 depicts this branch line.

Rail Traffic

This Category 5 line is primarily a generator of freight with 2,924 carloads of forest products in 1991 and only two carloads terminated. Exhibit 4-13 summarizes 1991 railroad traffic statistics. The line handled 126.1 cars per mile and 9,803 tons per mile, both of which are extremely good for a branch line.

EXHIBIT 4-12
EUREKA SUBDIVISION

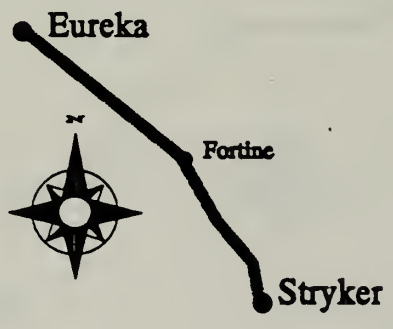


EXHIBIT 4-13
RAILROAD TRAFFIC STATISTICS - 1991
STRYKER TO EUREKA
BN MONTANA EUREKA SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	2,924	2	2,926	126.1
Percent	100	0	100	-
Tonnage	227,327	105	227,432	9,803
Percent	100	0	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 23.2
Carloads Per Week: 56.3
Tons Per Week: 4,374
Source: Burlington Northern Railroad

Sipple to Lewistown, Lewistown Subdivision

Serving the important population center of Lewistown, the Sipple to Lewistown light density branch line provides an essential rail service to central Montana. Connecting to the Great Falls to Mossmain main line near Sipple, this 25-mile line represents about one percent of total trackage. In 1985 the BN constructed the one mile from the main line to Sipple and rebuilt the former Milwaukee Road trackage from there to Moore (about 5.4 miles). The rail inventory varies from 75 to 112 pound rail and has maximum speed ranges of 8-25 MPH. This line is shown in Exhibit 4-14.

Rail Traffic

The majority of traffic hauled on this Category 5 line is grain from Lewistown and Moore. A pulp mill at Lewistown also generates a good portion of freight. Exhibit 4-15 summarizes the rail traffic statistics for 1991. A total of 2,002 carloads (191,557 tons) were originated and just 23 carloads (986 tons) were terminated. This equates to 81 cars per mile and 7,702 tons per mile.

EXHIBIT 4-14
LEWISTOWN SUBDIVISION

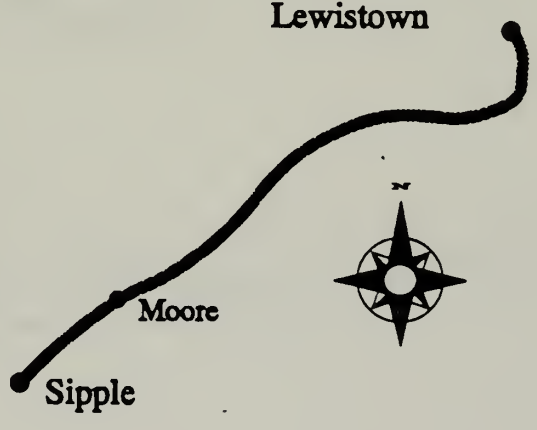


EXHIBIT 4-15
RAILROAD TRAFFIC STATISTICS - 1991
SIPPLE TO LEWISTOWN
BN MONTANA LEWISTOWN SUBDIVISION

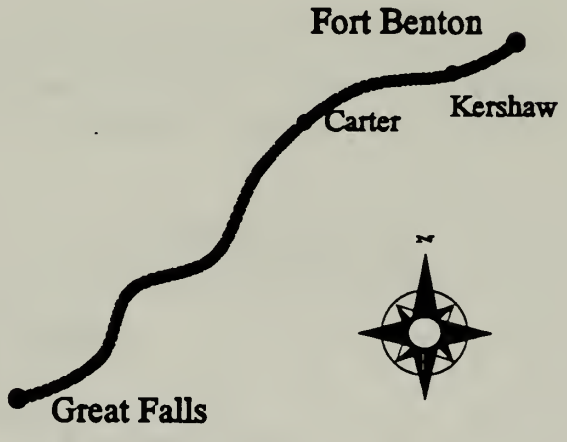
ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	2,002	23	2,025	81
Percent	99	1	100	-
Tonnage	191,557	986	192,543	7,702
Percent	99	1	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 25.0
Carloads Per Week: 38.9
Tons Per Week: 3,703
Source: Burlington Northern railroad

Great Falls to Fort Benton, Fort Benton Subdivision

In serving an agricultural area, the Great Falls to Fort Benton branch line is one of BN's high volume, grain handling lines. With only 44.6 miles and two percent of BN's trackage in the state, it more than doubles the percentage for non-coal carloads (4.1 percent) and tons (4.8 percent) carried. This Category 5 line is mostly 90 pound rail with some 110 and 115 pound rail at each end of the line. Maximum speed is 25 MPH. Exhibit 4-16 maps this productive line.

EXHIBIT 4-16
FORT BENTON SUBDIVISION



Rail Traffic

This branch line generated 3,565 carloads of grain in 1991 and terminated 35 carloads of fertilizer. Exhibit 4-17 details the rail traffic statistics for 1991. It is significant that the line handled 80.7 cars per mile and 8,086 tons per mile.

EXHIBIT 4-17
RAILROAD TRAFFIC STATISTICS - 1991
GREAT FALLS TO FORT BENTON
BN MONTANA FORT BENTON SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	3,565	35	3,600	80.7
Percent	99	1	100	-
Tonnage	357,221	3,433	360,654	8,086
Percent	99	1	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 44.6
Carloads Per Week: 69.2
Tons Per Week: 6,936
Source: Burlington Northern Railroad

Power to Choteau, Choteau Subdivision

Connecting to the Sweet Grass Subdivision main line, at Power, north of Great Falls, the Choteau branch line is another of BN's several grain hauling lines. This light density line is 28.7 miles long or about one percent of the total for the BN. Most of the rail is 90 pound with some 115 pound rail near Choteau. The maximum speed over the line is 25 MPH. Exhibit 4-18 depicts this branch line.

Rail Traffic

Choteau was the only station on this Category 5 line to have traffic in 1991. Rail traffic statistics are shown in Exhibit 4-19. The 465 carloads represent just .5 percent of the non-coal total for BN or 16.2 cars per mile. Similarly the 44,649 tons are only .6 percent of the total or 1,556 tons per mile.

EXHIBIT 4-18
CHOTEAU SUBDIVISION

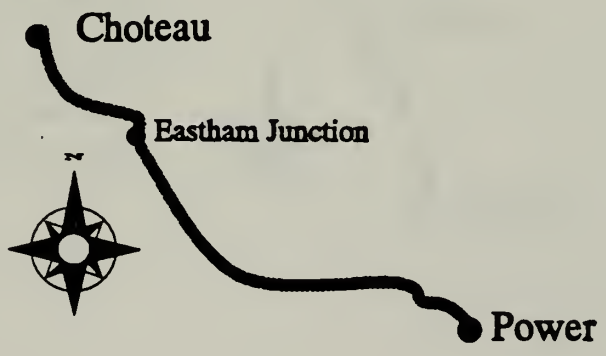


EXHIBIT 4-19
RAILROAD TRAFFIC STATISTICS - 1991
POWER TO CHOTEAU
BN MONTANA CHOTEAU SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	453	12	465	16.2
Percent	97	3	100	-
Tonnage	43,795	854	44,649	1,556
Percent	98	2	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 28.7
Carloads Per Week: 8.9
Tons Per Week: 858.6
Source: Burlington Northern Railroad

Eastham Junction to Fairfield, Fairfield Subdivision, Montana Division

Connecting with the 12th Subdivision at Eastham Jct., this 11 mile branch line also serves an agricultural area. It represents only .5 percent of BN's Montana trackage and consists of 115 pound rail. When the line was rehabilitated a decade ago, its operating speed was upgraded to the current 25 MPH. This Category 5 line is shown in Exhibit 4-20.

Rail Traffic

Exhibit 4-21 shows that the only station to have any business in 1991 was Fairfield. Its 1,124 carloads represented 1.3 percent of BN's total non-coal traffic, and is a respectable 102.2 carloads per mile. Likewise for tonnage, the 103,060 tons equates to 1.4 percent of the non-coal total and a significant 9,369 tons per mile.

EXHIBIT 4-20
FAIRFIELD SUBDIVISION

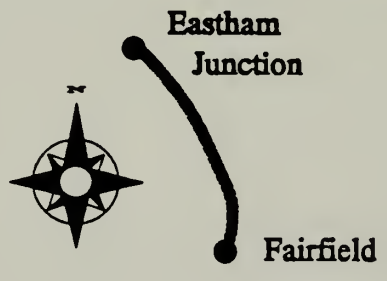


EXHIBIT 4-21
RAILROAD TRAFFIC STATISTICS - 1991
EASTHAM JCT. TO FAIRFIELD
BN MONTANA FAIRFIELD SUBDIVISION

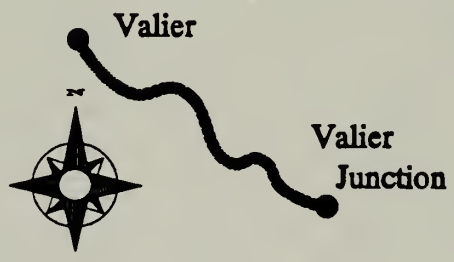
ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	1,120	4	1,124	102.2
Percent	100	0	100	-
Tonnage	102,671	389	103,060	9,369
Percent	100	0	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 11.0
Carloads Per Week: 21.6
Tons Per Week: 1,982
Source: Burlington Northern Railroad

Valier Junction to Valier, Valier Subdivision, Montana Division

Branching from the mid-point of BN's Sweet Grass Subdivision main line, the Valier Jct. to Valier light density line serves strictly an agricultural area. Its 17.3 miles are only .7 percent of the total for the BN in Montana. Rehabilitated by BN about 10 years ago, track is all 110 pound, continuous welded rail. Maximum line speed is 25 MPH. Exhibit 4-22 depicts this branch line.

EXHIBIT 4-22
VALIER SUBDIVISION



Rail Traffic

As with some other rather short branch lines, this one only had traffic from Valier, as indicated in the 1991 rail traffic statistics in Exhibit 4-23. Making up one percent of BN traffic, the 862 carloads equates to 49.8 cars per mile and the 82,431 tons to 4,765 tons per mile. It is a Category 5 line.

EXHIBIT 4-23
RAILROAD TRAFFIC STATISTICS - 1991
VALIER JUNCTION TO VALIER - BN MONTANA VALIER SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	849	13	862	49.8
Percent	98	2	100	-
Tonnage	81,146	1,285	82,431	4,765
Percent	98	2	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 17.3
Carloads Per Week: 16.6
Tons Per Week: 1,585
Source: Burlington Northern Railroad

Great Falls to Helena Junction, Helena Subdivision

The Helena Subdivision was primarily a connecting line between Great Falls and Helena. Its 95.4 miles represent four percent of BN's Montana trackage. In 1992, following the sale of the Helena Junction to Phosphate line to Montana Rail Link, the Great Falls to Helena Junction subdivision is now considered a branch line. Nevertheless, it provides the most direct rail link between northern Montana and the Canadian border, and southwestern Montana. The majority of the rail is 112 pound with smaller amounts of 90, 115, and 132 pound rail towards the ends of the line. Although there are many 10 and 25 MPH speed restrictions, most of the line has a 35 MPH maximum limit. This Category 5 line is illustrated in Exhibit 4-24.

EXHIBIT 4-24
HELENA SUBDIVISION

Rail Traffic

As indicated in the rail traffic statistics of Exhibit 4-25, there were no originations in 1991 and only 9 loads of corn terminated. The parallel I-15 interstate highway provides major competition for on-line business.

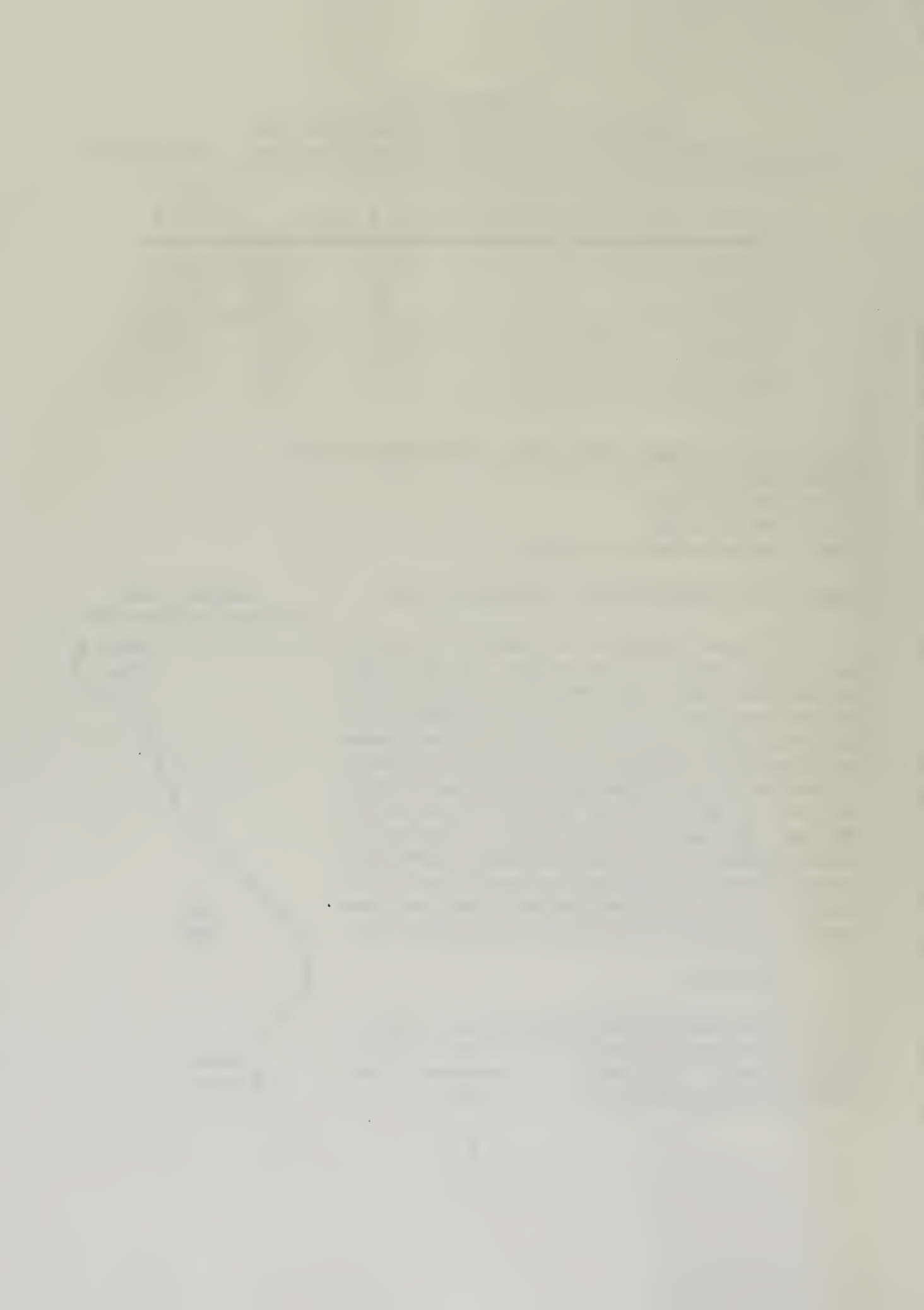


EXHIBIT 4-25
RAILROAD TRAFFIC STATISTICS - 1991
GREAT FALLS TO HELENA JUNCTION
BN MONTANA HELENA SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	0	9	9	.1
Percent	0	100	100	-
Tonnage	0	885	885	9.3
Percent	0	100	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 95.4
Carloads Per Week: .2
Tons Per Week: 17
Source: Burlington Northern Railroad

Columbia Falls to Kalispell, Kalispell Subdivision, Montana Division

The Columbia Falls to Kalispell branch line is perhaps BN's most important branch line on a per mile basis. With only .9 percent of total trackage (19.4 miles), it handles three times the percentage of non-coal revenue cars moved by the BN in 1991. Predominantly of 100 pound rail, the track tapers down to 60 pound rail on the south side of Kalispell, near where the abandoned 5.5 miles of line to Somers begins. Normal maximum speed is 25 MPH with only a few 10 MPH restrictions. Exhibit 4-26 depicts this important branch line.

EXHIBIT 4-26
KALISPELL SUBDIVISION

Rail Traffic

Forest products make up the majority of traffic with grain, food, and construction products comprising most of the balance. Exhibit 4-27 displays the wide diversity of commodities for such a short line. The 3,043 carloads handled to and from Kalispell amounted to 3.5 percent of the total BN non-coal volume in Montana, or 156.9 cars per mile—the most for any subdivision in Montana. The same relationship is true for tonnage. The 220,121 tons handled is equal to 2.9 percent of the non-coal total and 11,346 tons per mile, the most for any subdivision in the state. It is a secure Category 5 line.

EXHIBIT 4-27
RAILROAD TRAFFIC STATISTICS - 1991
COLUMBIA FALLS TO KALISPELL
BN MONTANA KALISPELL SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	2,818	225	3,043	156.8
Percent	93	7	100	-
Tonnage	206,094	14,027	220,121	11,346
Percent	94	6	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 19.4
Carloads Per Week: 58.5
Tons Per Week: 4,233
Source: Burlington Northern Railroad

Bainville to Scobey, Scobey Subdivision, Montana Division

Serving an agricultural area, the Bainville to Scobey light density branch line extends 98 miles from BN's major east-west main line at Bainville through three counties in northeastern Montana. Until abandoned in July 1992, the line had run to Opheim, 49 miles west of Scobey. This Category 5 line has 90 pound rail to Plentywood and 77.5 pound rail the rest of the way to Scobey. The normal branch line speed limit is 25 MPH. This line is illustrated in Exhibit 4-28.

EXHIBIT 4-28
SCOBEY SUBDIVISION

Rail Traffic

Exhibit 4-29 summarizes 1991 railroad traffic statistics. Of the 1,685 carloads, 99 percent were outbound loads of grain. These carloads represent 1.9 percent of BN's total and only 17.2 cars per mile. Similarly the 165,361 tons are 2.2 percent of the total but account for just 1,687 tons per mile. Competition is very strong on this line as grain elevators compete with other elevators on the nearby lines of the Dakota, Missouri Valley & Western and of the BN main line. In fact, it can be questioned whether this branch line and the DMVW's nearby Whitetail branch line can both be viable in the long term.

EXHIBIT 4-29
RAILROAD TRAFFIC STATISTICS - 1991
BAINVILLE TO SCOBEY
BN MONTANA SCOBEY SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	1,669	16	1,685	17.2
Percent	99	1	100	-
Tonnage	164,038	1,323	165,361	1,687
Percent	99	1	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 98.0
Carloads Per Week: 32.4
Tons Per Week: 3,180
Source: Burlington Northern Railroad

Pacific Junction to Big Sandy, Big Sandy Subdivision, Montana Division

Branching off the mid-point of BN's major east-west mainline, the Pacific Junction to Big Sandy branch line serves mostly an agricultural area. Its 31.5 miles are 1.4 percent of the total for the BN in Montana. Trackage is practically all 110 pound rail and has a maximum speed limit of 25 MPH. Exhibit 4-30 maps this branch line.

Rail Traffic

The majority of traffic hauled on this Category 5 line is grain. Exhibit 4-31 details the rail traffic statistics for 1991. The 1,747 carloads amounted to two percent of BN's Montana total and 55.5 cars per mile. Its 161,194 tons calculates to 5,117 tons per mile.

Some of the shippers in the past have expressed their opinion that if this line were abandoned, they would likely be forced to go out of business. However, as the 1991 figures imply, this line should continue to be a Category 5 line in the future.

EXHIBIT 4-30
BIG SANDY SUBDIVISION

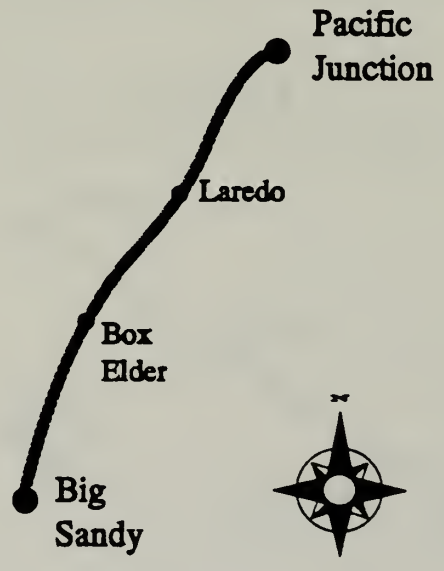


EXHIBIT 4-31
RAILROAD TRAFFIC STATISTICS - 1991
PACIFIC JUNCTION TO BIG SANDY
BN MONTANA 18TH SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	1,734	13	1,747	55.5
Percent	99	1	100	-
Tonnage	159,916	1,278	161,194	5,117
Percent	99	1	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 31.5
Carloads Per Week: 33.6
Tons Per Week: 3,100
Source: Burlington Northern Railroad

Glendive to Circle, Circle Line Subdivision, Yellowstone Division

Another of the several light density lines serving primarily the farming area, the 52.1 mile Glendive to Circle branch line comprises 2.3 percent of BN's Montana trackage. Track is all 90 pound rail. The 22 miles of track on the Circle end of the line is classified as FRA excepted track. Trains are restricted to 10 MPH over this stretch of track. The BN performed some rehabilitation work on 20 miles of the line in 1991. However, while the maximum speed permitted is 25 MPH, some portions of track are limited to 10 MPH. This Category 5 line is illustrated in Exhibit 4-32.

Rail Traffic

As indicated in Exhibit 4-33 for rail traffic statistics in 1991, most of the freight moved was grain from Circle. The branch line's 1,135 carloads were 1.3 percent of BN's total and produced just 21.8 cars per mile. Likewise for tonnage, the 111,372 tons equates to 1.5 percent of the total and only 2,138 tons per mile.

EXHIBIT 4-32
CIRCLE LINE SUBDIVISION

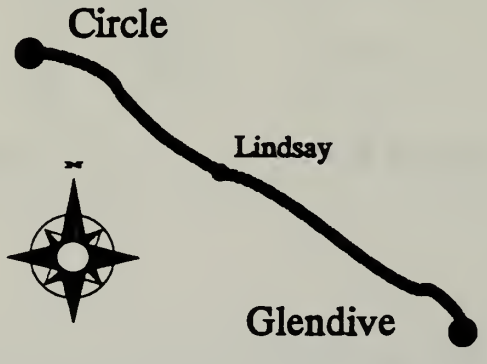


EXHIBIT 4-33
RAILROAD TRAFFIC STATISTICS - 1991
GLENDIVE TO CIRCLE
BN YELLOWSTONE CIRCLE LINE SUBDIVISION

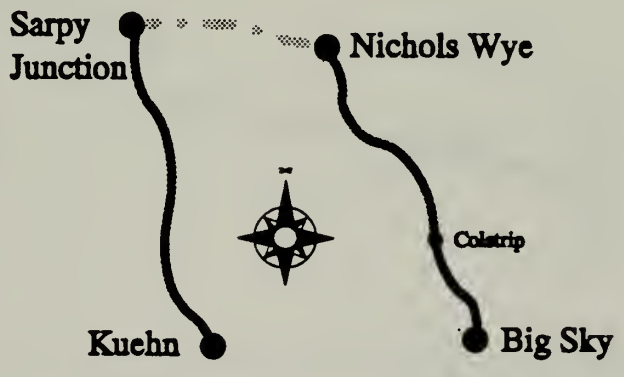
ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	1,110	25	1,135	21.8
Percent	98	2	100	-
Tonnage	109,459	1,913	111,372	2,138
Percent	98	2	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 52.1
Carloads Per Week: 21.8
Tons Per Week: 2,142
Source: Burlington Northern Railroad

Sarpy Junction to Kuehn, Sarpy Line Subdivision, Yellowstone Division, and Nichols Wye to Big Sky, Colstrip Subdivision

Joining the Glendive to Jones Junction main line in southeastern Montana, the Sarpy Junction to Kuehn and Nichols Wye to Big Sky branch lines, at 35.9 and 39.1 miles respectively, are high volume coal origination lines. These two lines represent 3.3 percent of BN trackage in Montana. They are well maintained, using mostly 132 pound rail and some 112 and 115 pound welded rail. The Kuehn line has a 40 MPH speed limit while the Big Sky line ranges from 25-35 MPH. These lines are shown in Exhibit 4-34.

EXHIBIT 4-34
SARPY LINE AND COLSTRIP SUBDIVISIONS



Rail Traffic

Information on coal traffic is listed separately in an earlier section of this chapter. Westmoreland's Absaloka Mine is located at Kuehn. The Rosebud mines and the Big Sky mine are located on the Colstrip Subdivision. The Kuehn line did not have any non-coal traffic while the little that the Big Sky line had is listed in Exhibit 4-35 for 1991. Because of heavy coal traffic, there is no possibility of these lines being abandoned in the near future and thus will remain in Category 5.

EXHIBIT 4-35
RAILROAD TRAFFIC STATISTICS - 1991*
NICHOLS WYE TO BIG SKY
BN MONTANA COLSTRIP SUBDIVISION

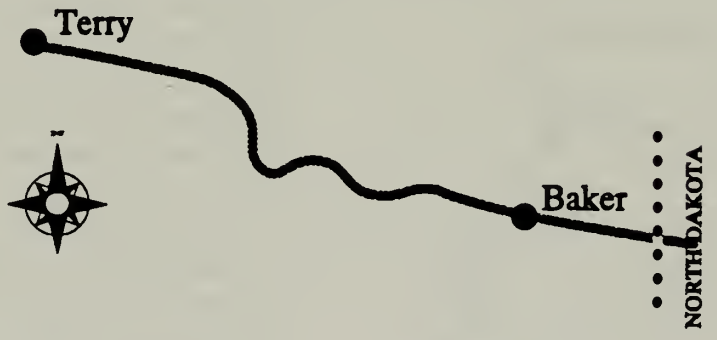
ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	0	31	31	.8
Percent	0	100	100	-
Tonnage	0	2,537	2,537	65
Percent	0	100	100	-
* Excludes Coal				

1991 Non-Coal Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 39.1
Carloads Per Week: .6
Tons Per Week: 49
Source: Burlington Northern Railroad

Terry to North Dakota State Line, Terry Line Subdivision, Minot Division

Traversing the agricultural area of eastern Montana, the Terry to the North Dakota border main line covers 78.6 miles and makes up 3.5 percent of BN's route miles in Montana. This line was once a part of the former Milwaukee main line. Though most BN heavy through freight traffic moves via the former Northern Pacific main line (through Bismarck, ND), the Terry line is an important feeder line and detour route. Being single track with some passing sidings, it is composed of both 112 and 115 pound jointed rail. Maximum speed is 40 MPH. Exhibit 4-36 maps this Category 5 line.

EXHIBIT 4-36
TERRY LINE SUBDIVISION



Rail Traffic

Exhibit 4-37 summarizes 1991 railroad traffic statistics. While there was not very much business in 1991, the line still was beneficial in bridging other traffic to and from the Glendive to Jones Junction main line at Terry. A few miles east of the Montana state line,

at Knife River, North Dakota, the line serves the Gascoyne Lignite mine which moves 2.2 million tons of lignite to Otter Tail Power's Big Stone Plant in South Dakota.

EXHIBIT 4-37
RAILROAD TRAFFIC STATISTICS - 1991
TERRY TO NORTH DAKOTA STATE LINE
BN MINOT TERRY LINE SUBDIVISION

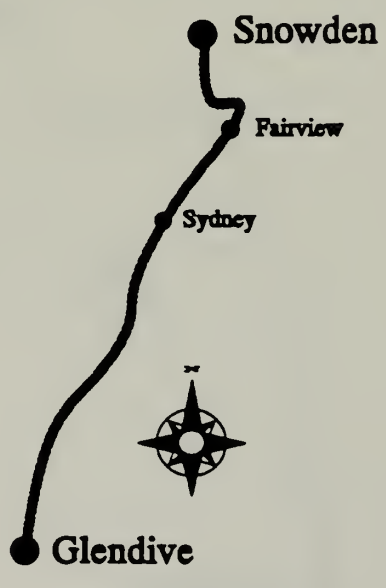
ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	19	23	42	.53
Percent	45	55	100	-
Tonnage	1,809	2,268	4,077	51.9
Percent	44	56	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 78.6 (in Montana)
Carloads Per Week: .8
Tons Per Week: 78
Source: Burlington Northern Railroad

Glendive to Snowden, Snowden Subdivision, Yellowstone Division

While mainly serving an agricultural area, the Glendive to Snowden branch line is significant in two ways. First, it is a connector between the major east-west main line to the north, and the Glendive to North Dakota and Jones Junction main lines. Thus, should one main line be at capacity or out of service, this line could be used to bridge traffic to another main line. Second, the branch line's 80 miles develops a large amount of business. At 3.6 percent of BN's Montana trackage, it generates 5.6 percent of the total traffic. About a third of the rail is continuous welded 100-115 pound and the rest is a mixture of 72-112 pound rail. Although there are numerous 10 and 25 MPH speed restrictions, most of the line has a 40 MPH maximum limit. This line is illustrated in Exhibit 4-38.

EXHIBIT 4-38
SNOWDEN SUBDIVISION



Rail Traffic

The majority of traffic hauled on this Category 5 line is farm products from Sidney and Ludington. Sidney also includes a large amount of bulk food products and petroleum products in its traffic mix. Exhibit 4-39 summarizes the rail traffic statistics for 1991. A

total of 4,259 carloads (357,768 tons) were originated and 633 carloads (57,221 tons) terminated. This equates to 61.2 cars per mile and 5,187 tons per mile.

EXHIBIT 4-39
RAILROAD TRAFFIC STATISTICS - 1991
GLENDIVE TO SNOWDEN
BN YELLOWSTONE SNOWDEN SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	4,259	633	4,892	61.2
Percent	87	13	100	
Tonnage	357,768	57,221	414,989	5,187
Percent	86	14	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 80.0
Carloads Per Week: 94
Tons Per Week: 7,981
Source: Burlington Northern Railroad

DENVER DIVISION

Huntley to Wyoming State Line, Big Horn Subdivision, Powder River Division

This 102.4 mile main line is an important bridge route with Montana Rail Link at Huntley, and a major coal route for Northern Wyoming and Dutch Subdivision coal traffic. Just east of Huntley is a heavy duty 1.4 mile wye track branching at Jones Junction on the Big Horn Subdivision to Moran Junction where coal traffic turns eastward on the Forsyth Subdivision. Representing 4.6 percent of BN trackage in Montana and only one percent of on-line non-coal freight, the line is very important for its coal traffic and high speed intermodal and merchandise traffic. Hauling considerable volumes of coal accounts for why the line has 115 and 132 pound, continuous welded rail and

EXHIBIT 4-40
BIG HORN SUBDIVISION

numerous passing sidings. Speeds up to 45 MPH are permitted. Exhibit 4-40 depicts this line.

Rail Traffic

For rail traffic statistics in 1991, Exhibit 4-41 details the few commodities generated on the lines. They may seen like light density lines; however, their coal and other bridge traffic makes this an important main line, and will likely stay in Category 5 for the long term.

EXHIBIT 4-41
RAILROAD TRAFFIC STATISTICS - 1991
HUNTLEY TO WYOMING STATE LINE
BN DENVER BIG HORN SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	858	15	873	8.53
Percent	98	2	100	-
Tonnage	70,849	1,036	71,885	702
Percent	99	1	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 102.4
Carloads Per Week: 16.8
Tons Per Week: 1,382
Source: Burlington Northern Railroad

Laurel to Wyoming State Line, Casper Subdivision, Denver Division

Located in the south central portion of Montana, the BN main line between Laurel and the Wyoming state line is similar to the Glendive to Snowden line in a couple of ways. First, the line joins with both the Montana Rail Link main line at Laurel and also the nearby Mossmain to Great Falls main line on the north end, and the major coal hauling main line at Bridger Junction, Wyoming, on the south end. This provides an alternative route for through traffic should another line not be available. Second, this minor main line also generates much traffic on its 55.1 miles of track (2.5 percent of BN's trackage) in the state of Montana. Two thirds of the line is continuous welded 112-131 pound rail with the remaining third being 90 pound rail. The line has a maximum permitted speed of 49 MPH. This Category 5 line is shown in Exhibit 4-42.

Rail Traffic

As indicated in Exhibit 4-43 for rail traffic statistics in 1991, there is some traffic mix on the line. It originated 2,434 carloads and 241,585 tons, and terminated just 42

carloads and 4,199 tons. In total this amounts to 2.8 percent of BN carloads and 44.9 cars per mile. The 245,784 tons calculates to 3.3 percent of the total and 4,461 tons per mile.

EXHIBIT 4-42
CASPER
SUBDIVISION

EXHIBIT 4-43
RAILROAD TRAFFIC STATISTICS - 1991
LAUREL TO WYOMING STATE LINE
BN DENVER CASPER SUBDIVISION

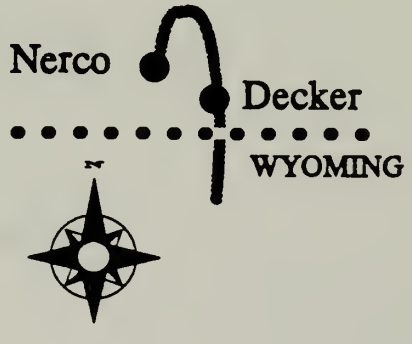
ITEM	ORIGI-NATED	TERMI-NATED	TOTAL	TOTAL PER MILE
Carloads	2,434	42	2,476	44.9
Percent	98	2	100	-
Tonnage	241,585	4,199	245,784	4,461
Percent	98	2	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 35.1
Carloads Per Week: 46.6
Tons Per Week: 4,727
Source: Burlington Northern Railroad

Nerco to Wyoming State Line, Dutch Subdivision, Denver Division

Joining the main line from Huntley at Dutch, Wyoming, the Nerco to Wyoming state line branch has 7.9 miles in Montana and is primarily a high volume coal origination line. This well maintained line uses mostly 132 pound welded rail. It has a 30 MPH speed limit. Exhibit 4-44 illustrates this line.

EXHIBIT 4-44
DUTCH SUBDIVISION



Rail Traffic

Information on coal traffic is discussed in an earlier section. Exhibit 4-45 lists the little amount of non-coal traffic for the year. This line will remain a Category 5 as there is no possibility of it being abandoned in the near future.

EXHIBIT 4-45
RAILROAD TRAFFIC STATISTICS - 1991*
NERCO TO WYOMING STATE LINE
BN DENVER DUTCH SUBDIVISION

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	0	12	12	1.4
Percent	0	100	100	-
Tonnage	0	711	711	90
Percent	0	100	100	-
*Excludes Coal				

1991 Non-Coal Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 7.9
Carloads Per Week: .2
Tons Per Week: 13.7
Source: Burlington Northern Railroad

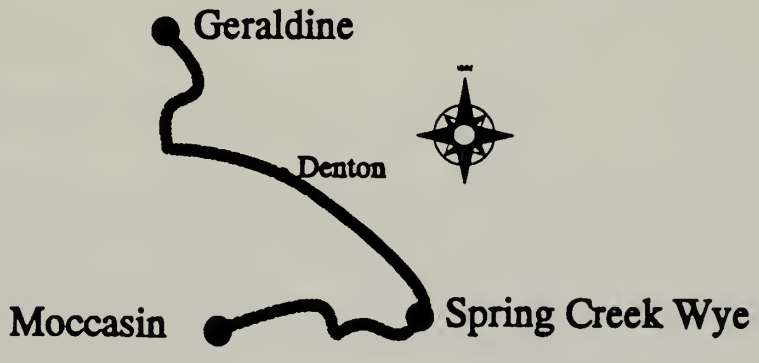
CENTRAL MONTANA RAIL

Central Montana Rail, Inc. (CMR), 84.2 route miles to Geraldine, begins at its connection with the Burlington Northern at Moccasin Junction. Originally this line was part of the mainline abandoned by the Milwaukee Road in 1980 and subsequently purchased by the BN. The BN, in turn, abandoned the line in 1984. The state of Montana acquired the line in September of 1984 in a settlement with the BN, and subsequently leased the line to a nonprofit corporation. Several farmers and grain shippers located on the Geraldine line participated in the formation and management of this corporation. Exhibit 4-46 identifies the location of the short line.

Present Status of the Line

The CMR has 8 employees, all located at Denton. The salvaged value of track is $6.7 million. The rail weight from Moccasin to Milepost 20 is 100-lb. rail, however, most of the line is 75 lb. rail (50 percent) with some 90 lb. rail (25 percent). The majority of trackage is FRA Class II, and the maximum

EXHIBIT 4-46
CENTRAL MONTANA RAIL



speed is 25 mph with but few 10 mph limitations. A recent significant construction project on the CMR was the Spring Creek Wye project. The building of 4,300 feet of new track to connect two existing rail lines shortened the running times for trains operating from Geraldine to the BN junction at Moccasin. The new connection saved enough crew time to complete a turn (round trip) between Denton and Moccasin Junction within the 12 hour Federal Hours of Service law, saving $200 and expenses in additional crew costs for each trip. Though state rail maps (Exhibits 2-1, 2-4, and 2-5) show a CMR line between Lewistown and Spring Creek, this segment is out of service because the wooden Spring Creek trestle is unsafe.

Rail Traffic

Information provided by CMR reveals that the seven shippers originated and terminated 1,644 carloads in 1991. Exhibit 4-47 provides station, commodity, tons, and carloads. Customers are served on an as needed basis, which in 1991 averaged twice a week.

EXHIBIT 4-47
CENTRAL MONTANA RAIL, INC.
1991 CARLOADS AND COMMODITIES

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	1,613	31	1,644	19.2
Percent	98	2	100	-
Tonnage	161,300	3,100	164,400	1,954
Percent	98	2	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 84.2
Carloads Per Week: 31.6
Tons Per Week: 3,162
Source: Central Montana Rail, Inc.

DAKOTA, MISSOURI VALLEY, AND WESTERN RAILROAD

The Dakota, Missouri Valley, and Western Railroad (DMVW) runs between the CP (former Soo Line) mainline at Flaxton, ND, and Whitetail, MT, a distance of 138.6 miles, of which 56.6 miles lie in Montana. The line was formed on September 1, 1990, under a lease agreement with the CP Rail controlled Soo Line. Exhibit 4-48 illustrates the line in the northeastern corner of the state in Sheridan and Daniels Counties.

Present Status of the Line

EXHIBIT 4-48
DAKOTA, MISSOURI VALLEY, & WESTERN RAILROAD

The line was constructed in 1913 with lightweight, jointed rail, of which 60 pound rail was laid on the west end, 72 pound rail in the middle (50 percent) section, and 80 pound rail on the east end. Most rail is original and in fair condition. In 1992, the DMVW presented a track rehabilitation program proposal to MDT for rail replacement, tie rehabilitation, ballasting and surfacing at a cost of $734,481. Beyond this proposal, no further action has been proposed or requested by DMVW.

Rail Traffic

Virtually all business from the three shippers on this line in Montana is outbound wheat and farm products. Exhibit 4-49 summarizes the rail traffic statistics for 1991. Whitetail is the busiest station on the line. There is minimal traffic between Whitetail and Westby. Trains operate once every two weeks on the average. Due to the condition of the track, the operating speed is 10 MPH.

A new elevator is projected to come on line at Raymond with a probable significant increase in grain traffic. This should keep the line originating at least 20 cars per mile per year for the near future and thus keep the line as a Category 5.

EXHIBIT 4-49
RAILROAD TRAFFIC STATISTICS - 1991
NORTH DAKOTA STATE LINE TO WHITETAIL

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	1,135	0	1,135	20.1
Percent	100	0	100	-
Tonnage	113,500	0	113,500	2,005
Percent	100	0	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 56.6
Carloads Per Week: 21.8
Tons Per Week: 2,183
Source: Dakota, Missouri Valley, and Western Railroad

MONTANA RAIL LINK

The second largest Montana railroad in Montana is the Montana Rail Link (MRL). The mainline of this 854 route mile spin-off of the BN is part of the "southern tier," including 555 miles of main line between Huntley and the Idaho border. The MRL main line joins the BN at both ends—east at Huntley and west at Sandpoint, ID. The railroad handled 30.5 million gross tons in 1991. MRL also interchanges with the Montana Western at Garrison. Most MRL traffic is bridge traffic between the BN at both ends of its route. Coal and intermodal traffic are the two most important components of that traffic.

Exhibit 4-50 is a simplified map of the MRL mainline. MRL branch lines are shown separately.

The MRL includes some of the most rugged and scenic lines in the state. Unit coal trains of 110 cars may require as many as 10 extra locomotives to lift trains over the heavy grades between Livingston and near Paradise.

EXHIBIT 4-50
MRL MAIN LINE

Rail Service

The MRL provides daily mainline service and frequent service on most of the branches. Normal mainline speeds are 45-60 MPH and 25-50 MPH on branch lines. The rail weight of the main line is predominantly 132 pounds per yard CWR. Some segments are 115 pounds CWR.

Present Status of the Lines

MRL has approximately 829 employees, based primarily at Missoula, Laurel, Livingston, and Helena. There are no current plans to abandon any lines, even though the Drummond to Philipsburg and Twin Bridges to Alder branches are out of service. In October 1992 MRL received ICC approval to acquire the 11-mile Whitehall to Spire Rock line from the BN to reach a ballast quarry at Spire Rock and to serve as a potential detour route. There has been no activity on this line the past two years, but the company believes some shippers may be willing to use MRL. Also, MRL has recently acquired the Helena Junction to Phosphate line (51.8 miles) from the BN in order to connect their two main line segments.

Jones Junction - Idaho State Line (Main Line)

The Montana Rail Link main line was created in 1987 by the acquisition of BN's "southern line" from Sandpoint, Idaho to Mossmain, Montana. This was subsequently expanded to Jones Junction near Huntley for a total of 555 main line miles. Serving the more populated areas of the state, its traffic base is grain, lumber and wood products, and minerals. Additionally it handles traffic received from connecting carriers; such as, the BN at Helena, Laurel, and Spokane; the Montana Western at Garrison; and the UP at Sandpoint. The previous Exhibit 4-50 illustrates this important main line.

Rail Traffic

Exhibit 4-51 summarizes 1991 railroad traffic statistics. The mainline serves about 200 customers with at least 77 actually shipping and receiving.

EXHIBIT 4-51
RAILROAD TRAFFIC STATISTICS - 1991
MRL MAIN LINE

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	38,398	16,392	54,790	98.7
Percent	70.1	29.9	100	-
Tonnage	3,199,392	981,604	4,180,996	7,533
Percent	76.5	23.5	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 555
Carloads Per Week: 1,053.6
Tons Per Week: 80,404
Source: Montana Rail Link

Logan - Whitehall (5th Subdivision)

This 38.3 mile branch line is located in Gallatin and Jefferson Counties. It connects with the main line at Logan and with the Whitehall to Alder branch line, and is served 5 to 6 days a week as far as Sappington and on as needed basis beyond. It is also FRA Class 3 trackage, with timetable speeds of 10-40 MPH. The majority of the traffic on the line is talc and grain. This line is shown in Exhibit 4-52.

Rail Traffic

The line is considered Category 5 even though most of the traffic originates or terminates within the first twenty miles from the mainline junction at Logan. The traffic base of talc favors continued use of rail. Exhibit 4-53 shows rail traffic statistics for this line.

EXHIBIT 4-52
MRL 5TH SUBDIVISION

EXHIBIT 4-53
RAILROAD TRAFFIC STATISTICS - 1991
LOGAN - WHITEHALL

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	2,413	86	2,499	65.3
Percent	97	3	100	-
Tonnage	232,510	8,760	241,270	6,299
Percent	96	4	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 38.3
Carloads Per Week: 48.1
Tons Per Week: 4,640
Source: Montana Rail Link

Whitehall - Alder (5th Subdivision)

This light density branch line extends 45.6 miles south from Whitehall to Alder, and is located in Jefferson and Madison Counties. Until 1987 the major shipper was a talc and

chloride mining company which shipped out of Alder. All rail traffic was terminated due to the relocation of the company's crude talc loading facility to Three Forks. Exhibit 4-54 depicts this branch line.

EXHIBIT 4-54
MRL, 5TH SUBDIVISION

Currently the line is classified as Category 5, which means it is a light density line and abandonment is not presently contemplated. However, the portion of rail from Twin Bridges to Alder, 19.5 miles, is presently out of service. The Whitehall to Twin Bridges 26.1 miles of trackage is FRA Class 2 with a timetable speed of 10-25 MPH. Five carloads of grain were terminated at Twin Bridges in 1991. The line is a likely future candidate for abandonment.

Drummond - Philipsburg (8th Subdivision)

This 26 mile long branch line located in Granite County has been out of service for ten years since a derailment damaged a segment of track. What business there was has gone to truck for the short haul to East Helena. Little rail haul potential is envisioned. Exhibit 4-55 illustrates this line. This line, too, is a likely future candidate for abandonment.

EXHIBIT 4-55
MRL, 8TH SUBDIVISION

Missoula - Darby (9th Subdivision)

This 65.9 mile branch line is located in Missoula and Ravalli Counties and is illustrated in Exhibit 4-56. This line connects with the main line at Missoula and is served twice a week. Timetable speed is 5-25 MPH on this FRA Class 2 trackage. The long term outlook for this line is questionable. The majority of the traffic on the line is lumber and grain.

Rail Traffic

The traffic base is mainly lumber and grain, all best suited to rail. Exhibit 4-57 describes the rail carload figures for the line.

EXHIBIT 4-56
MRL, 9TH SUBDIVISION

EXHIBIT 4-57
RAILROAD TRAFFIC STATISTICS - 1991
MISSOULA - DARBY

ITEM	ORIGI-NATED	TERMI-NATED	TOTAL	TOTAL PER MILE
Carloads	361	105	466	7.1
Percent	77	23	100	-
Tonnage	25,270	9,760	35,030	532
Percent	72	28	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 65.9
Carloads Per Week: 9.0
Tons Per Week: 674
Source: Montana Rail Link

DeSmet - Dixon - Paradise
(10th Subdivision)

EXHIBIT 4-58
MRL, 10TH SUBDIVISION

Also known as an alternate main line for MRL between DeSmet and Paradise, this 64.2 mile line is normally considered as being light density from DeSmet to Paradise via Dixon. This line is shown in Exhibit 4-58. Its heavy grades and sharp curves make it less desirable for through freight trains. The principal towns are Arlee and Dixon, where the branch line from Polson also joins. In fact, most revenue traffic handled on this line comes from the Polson to Dixon branch line. Empty trains from the west also use this route to reduce traffic on the primary main line running between DeSmet and Paradise via St. Regis.

This line connects with the regular main line at each end and is served daily. Timetable speed is 25-49 MPH on this FRA 3 trackage. Trains are frequently rerouted over this line when train weights permit.

Rail Traffic

Exhibit 4-59 summarizes the shipper traffic statistics for the line.

EXHIBIT 4-59
RAILROAD TRAFFIC STATISTICS - 1991
DE SMET - DIXON - PARADISE

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	69	9	78	1.2
Percent	88	12	100	-
Tonnage	4,830	900	5,730	89
Percent	84	16	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 64.2
Carloads Per Week: 1.5
Tons Per Week: 110
Source: Montana Rail Link

Dixon - Polson (11th Subdivision)

This 33.4 mile light density line, shown in Exhibit 4-60, extends from the MRL alternate mainline at Dixon northward to Polson through Sanders and Lake Counties. It is considered a Category 5 branch line. The principal towns are Charlo, Pablo, Ronan, and Polson, which generate virtually all of the rail traffic. Paralleling congested U.S. Highway 93, this line received MDT assistance in providing some federal funding for rehabilitation work to insure the continued option for freight service.

This FRA Class 2 trackage connects with MRL's alternate main line (running between Paradise to DeSmet) and is served three times a week. Timetable speed is 10-25 MPH.

EXHIBIT 4-60 11TH SUBDIVISION

Rail Traffic

Over 73 percent of the traffic on this line is lumber and wood products. Exhibit 4-61 shows rail traffic statistics for the line.

EXHIBIT 4-61
RAILROAD TRAFFIC STATISTICS - 1991
DIXON - POLSON

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	751	55	806	24.1
Percent	93	7	100	-
Tonnage	67,550	4,930	72,480	2,1700
Percent	93	7	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 33.4
Carloads Per Week: 15.5
Tons Per Week: 1,394
Source: Montana Rail Link

East Helena - Montana City (Line Segment 13)

Essentially a 4.0 mile spur off the MRL mainline at East Helena, it borders Lewis and Clark, and Jefferson Counties. This line originates and terminates a significant amount of traffic for its size. One active rail user, a cement company, is located at Montana City. Since only one user is located on the line, the traffic details are not discussed to avoid disclosure of proprietary information. Traffic for Montana City has been included in totals for the Main Line.

This Category 5 line has a timetable speed of 25 MPH, on a FRA Class 2 track. The line receives service five times a week.

Sappington - Harrison (Line Segment 53)

This 10.1 mile light density line is located in Jefferson and Madison Counties and runs southward from Sappington to Harrison. Exhibit 4-52 shown earlier, includes the Logan-Whitehall spur.

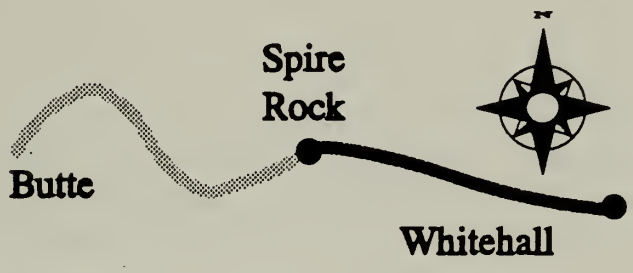
There is presently one grain elevator at Harrison that provides the only business. Traffic details cannot be discussed to avoid disclosing proprietary information. Traffic statistics have been included with the Logan-Whitehall branch.

While the line was designated as Category 1 in the early 1980's (to be abandoned), it was re-classified to Category 5 in 1986 by MRL. Though it still is classified as Category 5, it is difficult to justify future investment in the property to maintain the line because of

the extremely low traffic level. This FRA Class 1 track is restricted to 10 MPH and is served on an as needed basis.

Whitehall - Spire Rock

EXHIBIT 4-62
MRL - WHITEHALL TO SPIRE ROCK



With the ICC permission, the MRL has purchased the 11 mile BN line between Whitehall (MP 39) and Spire Rock (MP 50.3 just east of Butte) to handle ballast and to serve as a detour route (in conjunction with the Montana Western) between Logan and Garrison. Inactive the past two years, MRL wants the line as a potential detour connection and believes some shippers are willing to divert traffic back to the line. A short gap between Spire Rock and Butte is still owned by the BN, and presumably the MRL will eventually acquire this segment, which would allow it to connect with the Montana Western and the Rarus. The Montana Western could also open gateway service with its UP connection, though the traffic potential is unknown. Exhibit 4-62 illustrates the entire out-of-service line.

MONTANA WESTERN RAILWAY COMPANY, INC.

EXHIBIT 4-63
MONTANA WESTERN

The Montana Western Railway (MW) was created in August 1986, BN's first spin-off sale in the state. The 51.1 mile Butte to Garrison line was purchased from the Burlington Northern by two former Rarus Railway officials. Also included in the MW is the seven mile Newcomb branch running south from Butte and serving the original Port of Montana facility. This branch was originally part of the Milwaukee Road's main line across the state and was purchased by the BN in 1980 and subsequently acquired by the MW. This railroad is illustrated in Exhibit 4-63.

Present Status of the Line

The MW began business with 11 employees and for the past several years has employed 19 people, with 16 of those stationed at Butte. Three mechanical employees work at Silver Bow. In common with most other short lines, employees work in several different areas, as needed.

MW is considered Category 5 as there are no plans to abandon any segments. The main line track is FRA Class 3 with most of it being 115 pound rail and the rest being 100,

112, and 132 pounds. The Newcomb branch is FRA Class 2 with mostly 115 pound rail. The main track is limited to 35 MPH with some 10-25 MPH restrictions.

Rail Traffic

Exhibit 4-64 summarizes 1991 rail traffic statistics. Four of Montana Western's 20 on-line shippers originated two-thirds of all carloads and terminated one-third of carloads. Eighty-nine percent was bridge traffic with the BN (now MRL) at Garrison, and with the UP at Silver Bow and Rarus at Butte. The line operates six days per week. The Durant Canyon bridge at mile post 11, which carries the Rarus Railway over the MW, limits the use of regular double stack containers. Another eight inches of clearance is needed. Intermodal container traffic represents a significant growth opportunity for the MW. A potential project to increase clearance is developed in Chapter 5.

EXHIBIT 4-64
RAILROAD TRAFFIC STATISTICS - 1991
MONTANA WESTERN

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	1,851	891	2,742	47.2
Percent	68	32	100	-
Tonnage[1]	157,335	75,735	233,070	4,011
Percent	68	32	100	-

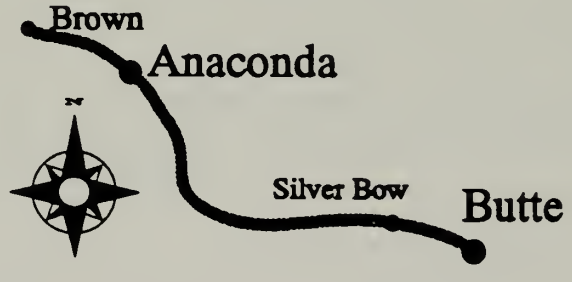
[1] Estimated at 85 tons per carload.

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 58.1
Carloads Per Week: 52.7
Tons Per Week: 4,482
Source: Montana Western

RARUS RAILWAY COMPANY

With the closure of ARCO's Anaconda Minerals Company in Butte and Anaconda in 1984, the Butte, Anaconda & Pacific Railway (BAP) filed for abandonment. After receiving approval from the Interstate Commerce Commission to abandon the line, ARCO donated 109 miles of the road's 115 track miles (31.45 route miles) and properties to Montana. Land and track

EXHIBIT 4-65
RARUS RAILWAY



materials in the Ramsay Yard and six miles of mainline track were excluded in this gift. The state of Montana subsequently purchased the remaining (non-donated) property and material for $178,874. The Rarus Railway was formed in 1985, under a lease/purchase of the property and resumed rail operations. Exhibit 4-65 depicts the line, and Exhibit 4-66 provides summary route mileage. The entire system is a light density line.

EXHIBIT 4-66
RARUS RAILWAY CO. ROUTE MILEAGE

SEGMENT	NAME	MILES
100	Mainline (Butte-Anaconda)	25.29
103	Browns Line (Anaconda-Brown)	4.70
104	Mill Creek (mainline-spur-end)	.84
105	Stuart Branch (Brick Plant spur)	.42
106	Track 5, 1/2 Interest with MWRR	.20
		31.45

Rarus provides service to the rail users on the main line twice weekly, as compared to the former BAP's 3.2 times per month. The speed on the main line is 30 MPH, with 15 to 25 MPH limitations on some bridges, curves, grades, and road crossings. Rarus provided additional details on line segments that are described in the following paragraphs.

The main line consists of a single track with passing sidings at Durant, Gregson, and Station. It passes through a 10 track yard at Rocker. The line runs through moderately rolling terrain, generally descending from Butte toward Gregson on a ruling grade of 1.0 percent. It then ascends from Gregson toward Anaconda with a ruling grade of 0.3 percent. Several curves exist as the line passes through Durant Canyon, with the most severe being 10 degrees. Maximum speeds are 30 MPH.

The line is in good condition consisting of 100 lb., 115 lb., and 119 lb. rail, and there are no operating restrictions. It is presently Class 3 track which could be upgraded to Class 4 with little work. No rehabilitation work is necessary at the present time. All bridges and culverts are reported to be in good shape.

An additional siding has been constructed near Anaconda to facilitate the loading of slag. The state of Montana assisted Rarus with acquiring the materials, and Rarus supplied the labor for installation of the 750 foot siding. This was accomplished in order to help stabilize the railroad's economic future. Thus, while hoppers are being loaded, the main line is free for train service. Operating costs and time are reduced, the possibility of accidents has decreased, and customer service has improved.

The Butte Hill Line was sold by the state of Montana to the Butte-Anaconda Historical Park and Railroad Corporation on December 11, 1991, and is no longer a part of the Rarus system.

The Brown's Quarry Line consists of a single light rail track with no passing sidings. The line runs west from Anaconda on a constant ascending ruling grade of 1.3 percent to Brown's Quarry. The line runs parallel to Highway 10-A West and has only one slight curve. Presently the line is classified as out of service due to no present or future traffic projected on this segment and consists of mostly 75 to 85 pound light rail. With no significant maintenance for many years, the line is in poor condition and would require significant expenditures to restore it to even Class 1 service. It is a likely candidate for abandonment.

The Millcreek Slime Spur was used many years ago for slime haul from the Anaconda Company slime ponds to the Smelter. Presently it is a short spur line running from main line to a dead end south of Highway 1 at a maximum descending grade of 1.0 percent. The line is in poor condition with light 75 lb. and 85 lb. rail in place. Deficiencies also include poor ties, poor ballast and broken tie plates. Trackage does not meet Class 1 standards. While this is an inactive line, there are plans to rehabilitate the line and build a highway bridge crossing over Highway 1. This is due to Rarus obtaining shipper commitment to use the line.

The Brick Plant Spur, a former Montana Union Line, consists of a single track line running fairly level from Highway 10-A to East Anaconda Yard at a maximum ascending grade of 1.0 percent. The entire line is in yard limit. Deficiencies include poor ties, no ballast, and worn 85 lb. rail. The line is presently out of service, and there are no future plans for its use. This line is also a likely candidate for abandonment.

Rail Traffic

Rarus reported that it originated and terminated 2,407 carloads, totalling 233,922 tons in 1991. Most of this traffic was copper concentrates moving between Butte and Silver Bow to be interchanged with the MW or the UP. Over 40 percent of the slag and copper concentrates were for export. A breakdown between originating and terminating traffic was not provided. It is estimated, however, that at least 96 percent of the traffic is originating.

Rarus anticipates that, starting in June 1993, the Anaconda to Silver Bow portion of the main line will see a substantial increase in annual volume of 200,000 tons or more for a three to four year period. This traffic represents the movement of contaminated "Super Fund" waste from Butte to a location near the end of the Millcreek Slime Spur.

Rarus is a Category 5 railroad. In January 1993 Rarus proposed to seek LRFA funds to increase clearance for bridge 11.02, which would allow double stack container traffic on the MW below the bridge.

1991 Statistical Summary (Originating & Terminating Traffic)
Length (Miles): 25.29
Carloads Per Week: 46.3
Tons Per Week: 9,250
Source: Rarus Railway Company

UNION PACIFIC RAILROAD

The Union Pacific's Montana Subdivision (part of the Idaho Division) Gay Branch has 125.76 route miles in Montana from the Idaho state line (near Monida) to Silver Bow (near Butte). This single track branch line connects with the UP's east-west main line at Pocatello, Idaho, 129.1 miles south of the Montana/Idaho border. Dispatching is entirely under Track Warrant Control (TWC), plus ABS (Automatic Block Signal) between Humphrey and Idaho Falls. Exhibit 4-67 illustrates the UP line.

Daily service is provided on well maintained FRA Class 3 trackage. Maximum speed is 40 MPH and with a few 10-35 MPH limitations. The rail weight of the entire line is 133 pounds.

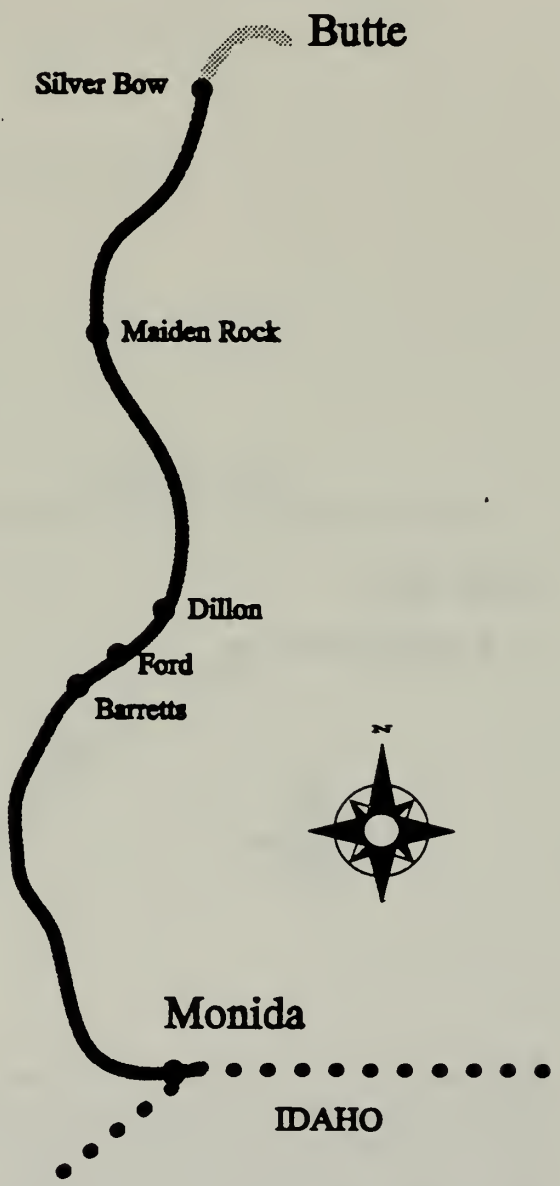
Present Status of the Line

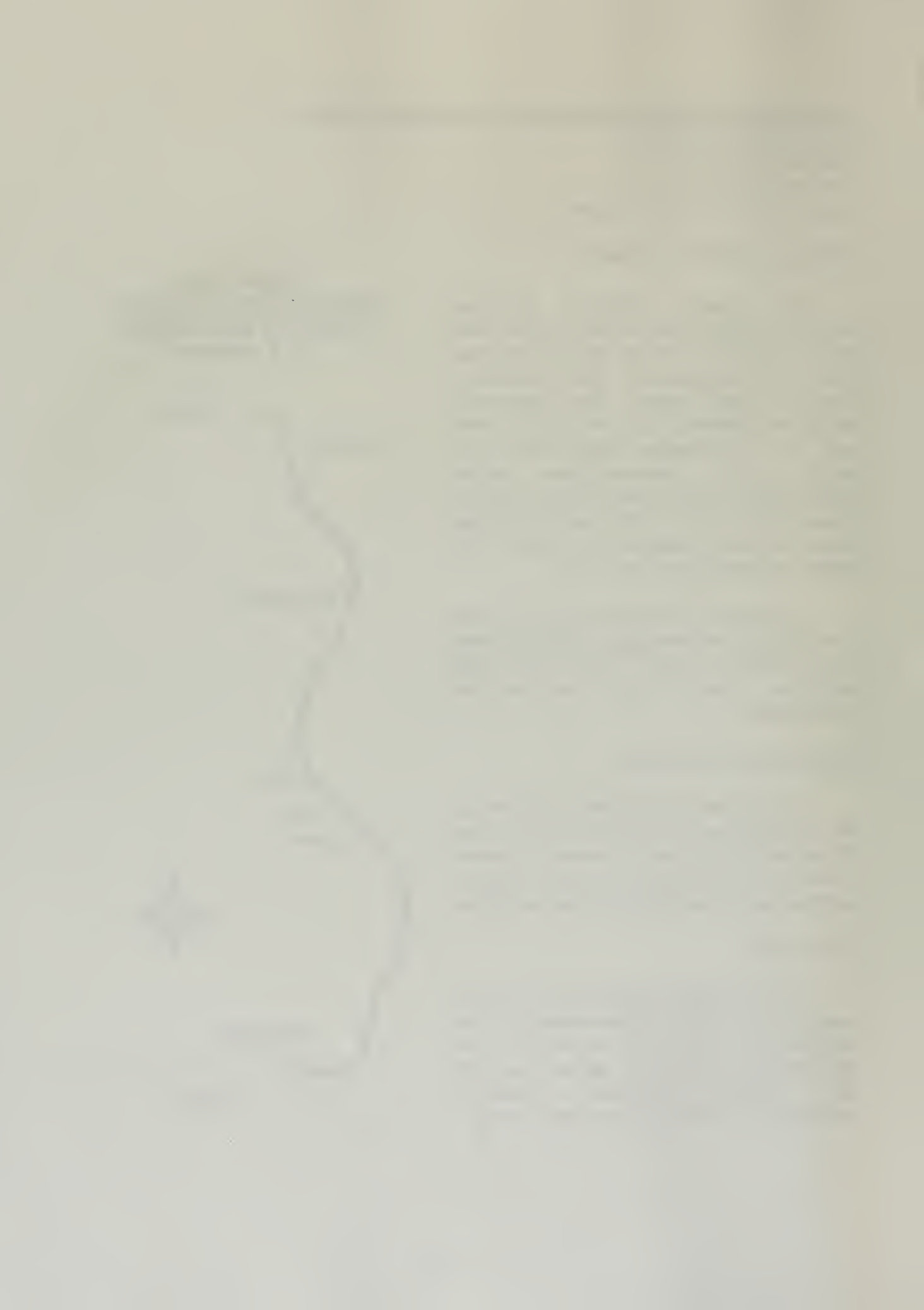
The UP has 15 employees at Dillon and two at Silver Bow. The UP expects to spend $2 million in the next 15 years for crosstie renewal on this Category 5 line. Rail and switches are presently in excellent condition.

Rail Traffic

Union Pacific reports that 12,122 carloads were originated and terminated in Montana in 1991. This does not include interchange traffic received or delivered at Silver Bow. Exhibit 4-68 provides a breakdown between originating and terminating traffic.

EXHIBIT 4-67
UNION PACIFIC RAILROAD
MONTANA SUBDIVISION
GAY BRANCH





Average gross tons per mile in 1991 were 1.68 million tons northbound and 1.81 million tons southbound.

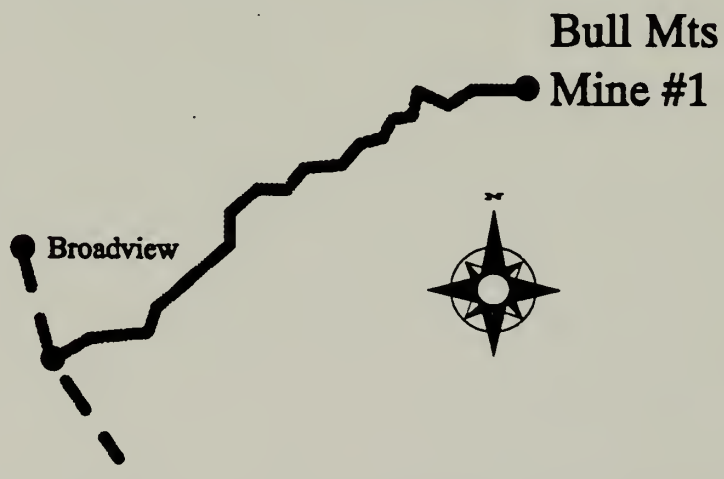
EXHIBIT 4-68
RAILROAD TRAFFIC STATISTICS - 1991
Union Pacific Railroad Company

ITEM	ORIGINATED	TERMINATED	TOTAL	TOTAL PER MILE
Carloads	5,921	6,201	12,122	96.3
Percent	49	51	100	-
Tonnage	513,975	575,372	1,089,347	8,659
Percent	47	53	100	-

1991 Statistical Summary (Originating and Terminating Traffic)
Length (Miles): 125.8
Carloads Per Week: 233
Tons Per Week: 20,949
Source: Union Pacific Railroad

PROPOSED BULL MOUNTAINS RAIL SPUR

EXHIBIT 4-69
PROPOSED BULL MOUNTAINS RAILROAD



In its August 31, 1992, draft Environmental Impact Statement, the Meridian Minerals Company proposed to develop the Bull Mountains Mine No. 1 in Musselshell and Yellowstone Counties. Of five proposed project elements, two affect Montana railroads. In one element there is planned a temporary upgrade of the existing Montana Rail Link rail loadout facility near Huntley to be served by truck. The other is more significant—a 33 mile rail spur to be built to connect with the Burlington Northern's Great Falls to Mossmain line south of Broadview near BN mile post 33.5. Meridian envisions that there will be two daily unit trains of 115 carloads. A 6,800 foot siding is to be constructed at the junction of the rail spur and the BN main line. This siding would permit a coal train to clear Montana Route 3 in case the main line is occupied with other BN train traffic. All traffic would move westbound for export or to domestic users in Oregon and Washington. The Bull Mountains Rail Spur is illustrated in Exhibit 4-69.

TRAFFIC SUMMARY

Exhibit 4-70 is a summary of all rail traffic originating and terminating within Montana. It excludes BN (bridge) traffic which neither originates or terminates within the state. Though no statistics were provided by the BN on bridge traffic, it is believed to exceed non-coal originating plus terminating traffic by several orders of magnitude.

Excluding coal and bridge traffic, 81 percent of all carloads handled originate in the state, reflecting the dominance of the state's grain, lumber, and wood products production. Coal, of course, is the number one commodity produced and shipped by rail, exceeding the total of all other originating plus terminating traffic by a factor greater than two.

Montana's four feeder lines plus the Montana Rail Link (a combination bridge carrier and feeder line) are very important to the state. Even though they represent less than 5 percent of the state's total non-coal traffic, these feeder lines provide access to areas which the BN cannot afford to serve. They provide low cost, on-demand service on light density lines. Their public importance is much greater than the percent of traffic originated and terminated.

History has shown that loss of rail service has never provided a net benefit to small communities. Montana, like many other states, now recognizes the importance of small feeder lines and is taking an even more aggressive role to preserve and improve its remaining rail infrastructure. This rail plan is part of that effort.

EXHIBIT 4 - 70

SUMMARY OF RAIL TRAFFIC ORIGINATED AND TERMINATED IN MONTANA IN 1991

Railroad and Line	Total Miles	Revenue Carloads Originated	Terminated	Subtotal	Cars/ Mile	Net Tons Originated	Terminated	Total Tons O + D	Tons/ Mile	Origin Tons/ Total Tons
Burlington Northern - Coal (1)	2244.2	348,750	0	348,750	155.4	36,270,000		36,270,000	16,162	100%
- Non-Coal (1,2)	(Same)	73,954	13,545	87,499	39.0	6,581,044	941,632	7,522,676	3,352	87%
Central Montana Rail	86.1	1,613	31	1,644	19.1	161,300	3,100	164,400	1,909	98%
Dakota, Missouri Valley & Western	56.6	1,152	0	1,152	20.4	149,760	0	149,760	2,646	100%
Montana Rail Link:				0						
Jones Jct. to Idaho border	555.1	38,398	16,392	54,790	98.7	3,199,392	981,604	4,180,996	7,532	77%
Logan to Whitehall	38.3	2,413	86	2,499	65.2	232,510	8,760	241,270	6,299	96%
Whitehall to Alder	45.6	0	0	0	0.0	0	0	0	0	N/A
Drummond to Philipsburg	26.0	0	0	0	0.0	0	0	0	0	N/A
Missoula to Darby	65.9	361	105	466	7.1	25,270	9,760	35,030	532	72%
De Smet to Paradise	64.2	69	9	78	1.2	4,830	900	5,730	89	84%
Dixon to Polson	33.4	751	55	806	24.1	67,550	4,930	72,480	2,170	93%
East Helena to Montana City	5.0	Included in Main Line				Included in Main Line				
Sappington to Harrison	10.1	Included in Logan to WhiteHall				Included in Logan to WhiteHall				
Montana Western	58.1	1,851	891	2,742	47.2	157,335	75,735	233,070	4,012	N/A
Rarus	31.5	2,323	84	2,407	76.4	225,749	8,173	233,922	7,426	97%
Union Pacific	125.8	5,921	6,201	12,122	96.4	513,975	575,372	1,089,347	8,659	47%
Total, Including Coal	3,445.9	477,556	37,399	514,955	149.4	47,588,715	2,609,966	50,198,681	14,568	95%
Total,Excluding Coal	3445.9	128,806	37,399	166,205	48.2	11,318,715	2,609,966	13,928,681	4,042	81%

5 - PROJECT IDENTIFICATION AND PRIORITIZATION

RAIL LINE CLASSIFICATION ANALYSIS CRITERIA

Expanding on ideas and efforts made by the Wisconsin DOT, the FRA, and others, Exhibit 5-1 summarizes rail line classification analysis criteria that the MDT Rail Planning Section proposes to use as state policy in considering rail projects for financial assistance. Projects which do not meet the proposed classification criteria may still receive special consideration, however, provided they are supported with benefit/cost analyses in accordance with federally prescribed guidelines and there are justifiable reasons for special consideration.

EXHIBIT 5-1
RAIL LINE CLASSIFICATION ANALYSIS CRITERIA

CORE LINES - Lines important from a national perspective, which preserve and improve service to "rail dependent" industries and major rail-using communities. Core lines must provide service to one or more of the following:

1. Class I and II main lines important from a national (and international) perspective.
2. Power plants receiving greater than 1,000 carloads of coal annually.
3. Mines or quarries shipping greater than 1,000 carloads annually.
4. Producers of lumber and wood products shipping/receiving greater than 1,000 carloads annually.
5. Communities shipping/receiving greater than 4,000 carloads annually.
6. Lines which are part of the Federal Strategic Rail Corridor Network (STRACNET) system.
7. Rail lines currently being used for passenger service.

FEEDER I LINES - Lines which preserve and improve service to other industries preferring rail, and to communities with existing facilities and strong potential for substantial rail usage. Feeder I lines must provide service to one or more of the following:

1. Grain facilities with a capacity of greater than 100,000 bushels.
2. Rail-oriented intermodal ports (Butte-Silverbow, Shelby).
3. Other intermodal terminals.
4. Rail lines currently being used for passenger service.
5. Lines designated as "connectors" to the Federal STRACNET system.

FEEDER II LINES - Lines which preserve and improve service to communities with (or with good potential for) significant rail usage, lines which preserve rail options to key communities with potential for economic development, and lines which preserve key corridors and system links. Feeder II lines must provide service to one or more of the following:

1. Communities shipping/receiving between 250 and 999 carloads annually.
2. System linkages critical to future freight rail operations in major inter-regional corridors.
3. System linkages with a potential for intercity and/or commuter rail passenger service.
4. Lines where shippers do not have viable rail alternatives, where loss of rail service would result in a net loss of jobs within the state.

EXHIBIT 5-1
RAIL LINE CLASSIFICATION ANALYSIS CRITERIA

POTENTIAL RAIL BANK LINES - Lines which are presently out of service, but which have some short or long term potential or new or renewed traffic which may justify the cost of reopening or rehabilitating the line. Potential rail bank lines must possess one or more of the following attributes:

1. Real short or long term potential of exceeding 20 carloads of originated or terminated traffic per mile of road.
2. A potential benefit-to-cost ratio of 1.0 or greater.
3. Extenuating factors or reasons which supplement or supersede the above two factors.

POTENTIAL CANDIDATES FOR ABANDONMENT - Lines for which there is no future short or long term prospect of any rail traffic and where alternate rail or modal is conveniently available without adverse impact to any potentially affected party. Candidates for abandonment must meet one or more of the following:

1. No traffic being offered for at least two years where the carrier was ready, willing, and able to provide rail service.
2. Lines where the benefit cost ratio is less than one and cost effective rail or modal alternatives are available without a major adverse impact on affected shippers or employment.
3. Lines where major rehabilitation or capital expenditures can no longer be avoided or postponed, and for which no parties, individually or collectively, is willing to fund the necessary investment.

BENEFIT/COST ANALYSIS

The FRA's 1990 *Benefit-Cost Methodology For the Local Rail Freight Assistance* program guidelines prescribe minimum data requirements and procedures to be used in performing benefit/cost analysis. To help MDT meet these guidelines, to analyze a wider range of alternatives, and to conduct benefit/cost analysis more quickly and efficiently, a spreadsheet model was developed. This benefit/cost model will help identify the inputs and perform analyses needed to quantify and rank each project. Appendix C describes the approach taken by the MDT to develop a methodology which meets FRA's 1990 criteria as described in the above reference guidelines and which addresses the needs of potential projects within the state. The model, as developed, represents the state's initial step in developing a formalized approach to project evaluation and ranking. It provides the platform upon which the MDT can build as it gains experience with evaluating potential rail projects. A discussion of the methodology and instructions for its use are also contained in Appendix C. The model is used to evaluate three projects described later in this chapter.

SHIPPER'S SURVEY

As part of the rail planning process, MDT mailed approximately 300 surveys to shippers within the state using shipper lists timely provided by some railroads. Because shipper information provided by carriers was more complete for grain, lumber and wood product shippers, the survey was directed more towards these commodity groups.

No surveys were sent to coal shippers, and only a relatively few were sent to shippers in other industrial classifications. In total, approximately 113 usable responses were received, a response ratio of almost 40 percent. The survey provided both quantitative and subjective information of value to the state. Because of the promise of confidentiality, detailed findings from the survey are not public information and are not included in this rail plan. A copy of the questionnaire is included as Appendix D.

Several significant findings became evident in reviewing the survey responses, and in some cases, follow-up discussions with shippers. These are summarized as follows:

- Rail services continue to be a vital need to Montana rail shippers.

- A high percentage of survey respondents would be adversely affected (i.e., suffer major impacts) if rail services were discontinued or abandoned or there were significant reductions in rail service (frequency) or increases to cost of that service.

- Very few shippers can afford or are willing (in principle) to make a commitment to capital investment to preserve essential rail services.

- The MRL and short lines receive good marks for service and attempting to serve shipper needs.

- By comparison to MRL and short lines, small shippers strongly feel the BN is not very interested in their traffic, as reflected in service, car supply, and response to special requests. Most BN shippers would like more contact with BN sales or marketing representatives.

- Most shippers feel there are opportunities for new rail traffic and modal shift, though few were specific in providing details.

- There is some anxiety among shippers on light density lines, particularly those operated by the BN, regarding future continuation of service. BN's long term intentions or commitments to shippers on some of these lines are unknown. Shippers would like to know BN's intentions before they are publicly announced.

- Shippers support a more aggressive role by the state in helping to preserve what they perceive are essential rail services.

- Car shortages are the biggest single item of service problems identified.

- Many small grain shippers cannot take advantage of 26 or 52 multiple car loadings for more cost effective transportation rates, though they would like to increase their rail usage. This suggests

an opportunity to investigate ways to develop means or mechanisms to enable more small shippers to participate in cost effective bulk rail transportation services.

Selected comments extracted from surveys or from follow-up interviews are as follows:

"Seems like a continuous shortage of cars unless we buy COT's (certificates of transportation)."

"BN needs to get rid of the COT program or have it better supervised."

"Rail is our only viable alternative without which, we would be out of business."

"We would use rail more if rates versus truck were comparable."

"Rates are the main issue. We could increase our rail traffic 30-40 percent if we had access to intermodal that could deliver to the eastern U.S. for the same rates that are currently offered on boxcars."

"With more cars, we could ship more wheat by rail."

"We do not ship much by rail because of the major difference in rates between the single and . . . [multiple car block] price."

"We need good rail service to keep our business going."

"We get good service from our serving line. We have trouble with connecting line service by the BN."

"Our short line provides excellent service. If that same service was provided by BN, this company would ship/receive 70-90 percent by rail."

"Increased rail cost . . . have eliminated the economics of [selling] wheat by rail. Damage on product shipped . . . prevents us from using rail."

"Choice of transportation is strictly on cost per bushel . . . . Cost and service by rail has been unavailable or poor at best. MRL has been a vast improvement over BN in service and attitude."

"Rail service to this area has been excellent."

"This is a new business and, at this time, we are uncertain as to how truck or rail freight will be proportioned."

Though not a phenomena unique to Montana, small to medium rail shippers generally have negative attitudes regarding railroad costs, service, and attitude. They feel that railroads focus too much on major shippers and fail to recognize that small and medium shippers make up a significant proportion of total railway traffic and make a significant contribution to the railroad's overhead and profit. Many shippers feel railroads are not exploring the full potential for rail traffic on light density lines.

In total, survey respondents who provided information on employees and payroll represent a total of 2,059 employees and a gross payroll of approximately $54.5 million. This compares to the state's total employment of an estimated 384,000 people and an estimated payroll of approximately $6.0 billion (0.5 percent of total employment and 0.9 percent of total payroll).

Total carloads originated and terminated by survey respondents were 33,287, representing 20 percent of total non-coal carloads originated, as reported by the railroads.[1] The approximate distribution of originating traffic by state of destination and terminating traffic by state of origin as reported by survey respondents is summarized in Exhibit 5-2.

Shipments to Oregon and Washington dominate the reported traffic, and represent grain for export and domestic consumption. Traffic from Canada represents the largest segment of reported inbound traffic. Origin or destination of most traffic was not specified by survey respondents.

EXHIBIT 5-2
SUMMARY OF STATE BY STATE TRAFFIC DISTRIBUTION REPORTED BY SURVEY RESPONDENTS

Outbound Shipments Delivered To	Tons	Carloads
Alabama	16,840	258
Arizona	3,250	36
Arkansas	8,850	126
California	31,785	367
Canada	15,190	213
Colorado	56,010	612
Connecticut	5,210	67
Florida	5,720	89

[1]See Exhibit 2-3. Total non-coal carloads originated or terminated in Montana was reported by all carriers to total 166,242 for 1991. For comparison, about 352,000 carloads of coal originated in Montana in 1991.

EXHIBIT 5-2 SUMMARY OF STATE BY STATE TRAFFIC DISTRIBUTION REPORTED BY SURVEY RESPONDENTS		
Georgia	20,520	282
Idaho	12,320	137
Illinois	23,180	334
Indiana	35,790	452
Iowa	2,950	43
Kansas	9,540	116
Kentucky	10,420	127
Louisiana	310	4
Maine	14,350	168
Maryland	2,070	27
Massachusetts	12,280	152
Michigan	8,520	127
Minnesota	25,224	401
Mississippi	270	4
Missouri	40,200	501
Montana	4,090	44
Nebraska	49,000	905
Nevada	70	1
New Hampshire	1,190	15
New Jersey	1,780	24
New York	6,590	90
North Carolina	8,210	110
North Dakota	27,350	318
Ohio	11,260	163
Oklahoma	150	2
Oregon	258,046	2,631
Pennsylvania	8,490	102
South Carolina	250	4
South Dakota	1,450	20
Tennessee	5,080	75
Texas	23,280	304
Unspecified	1,572,524	17,845

EXHIBIT 5-2 SUMMARY OF STATE BY STATE TRAFFIC DISTRIBUTION REPORTED BY SURVEY RESPONDENTS		
Utah	380	5
Vermont	480	6
Virginia	330	5
Washington	492,285	5,510
West Virginia	510	7
Wisconsin	29,390	410
Wyoming	4,680	48
Total Outbound	**2,867,612**	**33,235**
Inbound Shipments - Received From		
Canada	21,000	210
Colorado	3,315	65
Idaho	1,000	10
Minnesota	8,155	87
Montana	2,500	30
North Dakota	500	5
Oklahoma	140	2
Unspecified	319,602	3,346
Washington	180	2
Total Inbound	**356,392**	**3,757**

LINE RANKING

Many factors determine the importance of a branch line to a railroad, a shipper, and from a broader perspective, the state. For non-bridge lines, carloads originated or terminated per mile have historically been a ranking mechanism for the viability of a line. On any given line, many other factors besides carloads originating or terminating per mile of road may also be very significant. For example, the "quality" of the traffic (i.e., revenue as a function of both value of the traffic and length of haul), condition of the line (whether significant deferred maintenance or need for rehabilitation exists), operating costs, traffic vulnerability to diversion, seasonal versus non-seasonal factors, and long term traffic potential are all factors which must be considered in a line's importance.

Exhibit 5-3 summarizes the state's best estimate of traffic originating and terminating per mile of road for each line segment discussed in Chapter 4, based on information made available to the state. Though ranking is in order of carloads originated

EXHIBIT 5 - 3

RANKING OF ORIGINATING AND TERMINATING 1991 NON-COAL TRAFFIC AND SUMMARY ASSESSMENT OF FUTURE LINE OPERATION

RANK	R.R.	LINE	TOTAL MILES	MILES NOT OPERATED	OPERATED MILES	TOTAL O&T CARLOADS	CARS PER OPER MILE	NOTE	NEAR TERM (3 YR) POTENTIAL FOR ABANDONMENT
1	MRL	East Helena - Montana City	5.0	0.0	5.0	2,351	470.2		None
2	BN	Columbia Falls - Kalispell	19.4	0.0	19.4	3,043	156.9		None - Good, Diversified Traffic Base
3	BN	Stryker - Eureka	23.2	0.0	23.2	2,926	126.1		None
4	BN	Eastham Jct. - Fairfield	11.0	0.0	11.0	1,124	102.2		None
5	UP	Entire Line	125.8	0.0	125.8	12,122	96.4	B	None
6	MRL	Jones Jct. - Idaho border	555.1	0.0	555.1	52,437	94.5	B,M	None
7	BN	Havre - Conkelley	245.0	0.0	245.0	21,330	87.1	B,M	None
8	BN	Sipple - Lewistown	25.0	0.0	25.0	2,025	81.0		None
9	BN	Great Falls - Fort Benton	44.6	0.0	44.6	3,600	80.7		None
10	RARW	Entire	31.5	6.0	25.5	2,407	94.4		None
11	BN	Conkelley - Idaho border	144.4	0.0	144.4	10,739	74.4	B,M	None
12	BN	Great Falls - Sweet Grass	136.5	0.0	136.5	9,941	72.8		None
13	MRL	Logan - Whitehall	38.3	0.0	38.3	2,499	65.2		None
14	BN	Glendive - Snowden	80.0	0.0	80.0	4,892	61.2	B	None
15	BN	Pacific Jct. - Big Sandy	31.5	0.0	31.5	1,747	55.5		Not Likely
16	BN	Valier Jct. - Valier	17.3	0.0	17.3	862	49.8		Not Likely
17	MWRR	Entire Line	58.1	0.0	58.1	2,742	47.2	B	None
18	BN	Laurel - Wyoming border	55.1	0.0	55.1	2,476	44.9	B,M	Not Likely
19	BN	Mossmain - Great Falls	222.7	0.0	222.7	7,967	35.8	B,M	Not Likely
20	BN	North Dakota border - Havre	286.2	0.0	286.2	8,217	28.7	B,M	None
21	MRL	Dixon - Polson	33.4	0.0	33.4	806	24.1		Uncertain
22	BN	Glendive - Circle	52.1	0.0	52.1	1,135	21.8		Uncertain
23	DMVW	Entire Line	56.6	0.4	56.2	1,152	20.5		Not Likely
24	CM	Entire Line	86.1	1.9	84.2	1,644	19.5		Not Likely
25	BN	Bainville - Scobey	98.0	0.0	98.0	1,685	17.2		Potential Abandonment
26	BN	Power - Choteau	28.7	0.0	28.7	465	16.2		Non east of Eastham Jct.; Not likely Eastham Jct. to Choteau
27	BN	Glendive - Jones Jct.	209.6	0.0	209.6	2,358	11.3	B,M	None - Heavy coal bridge line
28	BN	Huntley - Wyoming border	102.4	0.0	102.4	873	8.5		None - Heavy coal, Intermodal, and mixed freight bridge line
29	MRL	Missoula - Darby	65.9	0.0	65.9	466	7.1		Potential Abandonment
30	MRL	Sappington - Harrison	10.1	0.0	10.1	34	3.4		Potential Abandonment
31	BN	Nerco - Wyoming border	7.9	0.0	7.9	12	1.5	C	None - Heavy originating coal traffic
32	MRL	De Smet - Paradise	64.2	0.0	64.2	78	1.2	A,B	None - strategic alternate main line
33	BN	Nichols Wye - Big Sky	39.1	0.0	39.1	31	0.8	C	None - Heavy originating coal traffic
34	BN	Terry - North Dakota border	78.6	0.0	78.6	42	0.5	B,M	None - significant bridge traffic and is alternate main line
35	MRL	Whitehall - Alder	45.6	19.5	26.1	5	0.2		Abandonment probable
36	BN	Great Falls - Helena Jct.	95.4	0.0	95.4	9	0.1	B	Uncertain - Present or Potential Bridge traffic may be sufficient
37	BN	Helena Jct. - Phosphate	51.8	0.0	51.8	N/A	0.0	B,M	None - Part of Main Line
38	BN	Glendive - ND border	38.5	0.0	38.5	N/A	0.0	B,M	None - Heavy coal, Intermodal, and mixed freight bridge line
39	BN	Sarpy Jct. - Kuehn	35.9	0.0	35.9	N/A	0.0	C	None - Heavy originating coal traffic
40	BN	Moran Jct. - Jones Jct.	1.4	0.0	1.4	N/A	0.0	B,M	None - Heavy coal bridge line
41	BN	MRL/BN Laurel - Jones Jct.	30.8	0.0	30.8	N/A		B,M	None - Main Line used by both BN and MRL
42	BN	Whitehall - Butte	32.1	32.1	0.0	N/A	0.0		Not likely - reopening of line is probable
43	MRL	Drummond - Philipsburg	26.0	26.0	0.0	N/A	0.0		Abandonment probable - Presently out of service
		Total	3,445.9	0.0	3,360.0	166,242	49.5		

NOTES: A = Alternate main line C = Coal hauling line M = Main line

or terminated per mile of line, subjective comments concerning rail line classification analysis criteria (based on Exhibit 5-1) are added. This is the state's first attempt to make this classification, and it is subject to revision as conditions change, better information is made available to the state, or shippers or carriers provide other information which changes their classification.

PROPOSED PROJECTS

In early 1993, several projects were submitted by Montana railroads and one foreign trade port for consideration of financial assistance. MDT has established three categories of project consideration: (1) potentially significant benefits for immediate consideration; (2) potential longer term benefits for future consideration; and (3) little or no consideration at this time. Proposed projects may or may not qualify for federal financial assistance under the Local Rail Freight Assistance program sponsored by the FRA or for DOT ISTEA funding.

One of three proposed projects is a facility improvement project for the Port of Shelby, involving the construction or improvement of rail facilities related to intermodal bulk transfer, warehousing, and site improvements.

A second project is to increase rail clearance at a rail bridge in Durant Canyon. The Rarus Railway bridge at mile post 11.02 crosses the Montana Western Railway at its mile post 11. Presently the MW has a clearance maximum of 19 feet (according to the 1992/1993 issue of *Railway Line Clearances*). While conventional freight cars can pass on the MW under the Rarus Railway bridge, the bridge will not clear conventional double stack well cars loaded with standard containers. Bridge clearance permits only well cars with one standard container or double stacking of the smallest size containers. Since larger containers are becoming more common, the bridge constraint is increasingly restricting the flow and the growth of intermodal container business on and over the Montana Western. This also affects traffic flow to and from connecting railroads, and the amount of business that can be handled at the Port of Montana in Butte. Increasing the clearance by either raising the Rarus bridge or lowering the MW main line or a combination of both would have immediate and long term prospects for traffic growth.

As a third possible project, Central Montana Rail needs to replace the concrete deck pans on Sage Creek, Judith River, and Indian Creek trestles. In the 1984 Rail Plan Update, the Indian Creek project was mentioned, but no action was taken. The Judith River project was noted in the 1985 Rail Plan. Because limited maintenance funds were available for the rehabilitation of the CMR, this work was also not accomplished. These projects remain a CMR maintenance responsibility.

The above three projects are examined in more detail using a cost-benefit model designed to incorporate FRA's guidelines for performing benefit/cost analysis.

At the time of preparation of this rail plan update, the findings are preliminary, as some of the inputs used are based on estimates, for which additional research is needed to better quantify their accuracy.

Port of Shelby - Spur Line

In 1987, Toole County and the City of Shelby jointly established an inland port authority, the Northern Express Transportation Authority (NETA). In accordance with Montana Code Annotated 35-2-203 the port authority was to create a transportation and an intermodal infrastructure in northern Montana to market Montana products and services through cooperative efforts with state, national, and international transportation marketing and manufacturing organizations.[2] A two-mill levy provides approximately $60,000 annually to provide basic staff support for administration of authority activities and marketing of port authority services.

Subsequent to establishment of the port authority, the State of Montana issued a grant of $300,000 to form the basis of funding to establish the facility. In addition, funds were secured to enable NETA to obtain services to provide for the preliminary conceptual design, costs, and benefits of such a facility. As a result of the planning and marketing efforts, NETA received the endorsement of the Governor of Montana as well as from the surrounding counties and cities.

Studies have shown that the NETA facilities will contribute significantly to local and state economies by capitalizing on the free trade agreement between Canada and the United States. NETA port facilities are designed to load and off-load rail cars and trucks to provide for transloading and subsequent shipping of cargoes via various modes of transport. In addition, the facilities provide a location for adding value to commodities (such as compressing alfalfa) before utilizing the rail or truck transport options for shipment to various locations.

The potential of the port authority facilities is enhanced by efforts initiated by NETA and its staff to coordinate shipping of freight between Canada and the U.S. These efforts have produced agreements between the State of Montana and the Province of Alberta on such issues as joint inspection at the border and certain exemptions for weight of shipments and truck lengths on either side of the border. These agreements will facilitate shipments of commodities to and from the port facilities.

The facilities in this project are as follows:

- Bulk Transfer Facility. This facility will allow for the loading and unloading of trucks and rail cars and transfer of cargoes.

- South Track Warehouse. A 60 feet by 200 feet warehouse will allow NETA to store shipments of commodities for subsequent packaging or shipment.

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[2]Abstracted from the Executive Summary of "Shelby Intermodal Exchange Facility-A Feasibility Study" prepared by NETA, Leeper, Cambridge and Campbell, Inc. and Thomas, Dean, and Hoskins Inc.

- Container Storage. An uncovered area of 50 feet by 150 feet will provide for storage of containers.

- Roadway Connection. A roadway will connect NETA facilities with the South Industrial Park. This facilitates the transfer of loads to that industrial site to allow for additional storage, packaging or adding value to commodities.

The Port of Shelby is located in north central Montana at Shelby, 88 miles north of Great Falls. It is served by the main north/south interstate, I-15, and the northern main line of the Burlington Northern Railroad. Acting primarily as a gateway facility to Canada, it serves a portion of the 300 plus trucks per day that cross the Canadian border near Sweetgrass. More than 25 trains a day pass through Shelby, several of which service the port.

In 1991, the bulk transload facility capable of transferring 150 tons per hour was completed. Additionally, separate storage areas for 4 different products was constructed, each with 200 ton storage capacity.

In 1992, NETA was granted $1.25 million in state and federal grants to construct port facility improvements. This work is projected to begin in July of 1993. These proposed improvements include a warehouse with a rail-side dock and supporting truck turnaround and storage areas and highway access. Future phases of development will be in the south industrial park complex of NETA, including the construction of a warehouse/dock, truck scale, truck washdown facility, and a railway spur accessing the warehouse. The railroad spur is not included in the $1.25 million grant.

The existing track in the south industrial park is owned by the city of Shelby, and connects with the Burlington Northern north/south main line passing through Great Falls. The estimated cost of building the needed spur is approximately $124,000. Exhibit 5-4 summarizes the proposed cost and benefits of the project.

EXHIBIT 5-4
SUMMARY OF BENEFITS AND COST OF PROPOSED NETA SPUR TRACK

	Ten Year Present Value
Transportation Efficiency Benefits	
Reduction in Transportation Costs	1,242,015
Increased Profits to NETA	169,282
Improved Contribution to BN	828,010
Secondary Benefits	
Unemployment Costs Avoided	99,361

EXHIBIT 5-4
SUMMARY OF BENEFITS AND COST OF
PROPOSED NETA SPUR TRACK

	Ten Year Present Value
Highway Impacts Avoided	86,181
Salvage Value	11,168
Total Present Value	$2,436,016
Present Value of Costs	$124,328
Benefit/Cost Ratio	19.6

The calculation of benefits and costs and the details supporting Exhibit 5-4 are contained in Appendix C. Even with a reasonable margin of error in either the benefits or cost, the benefit to cost ratio of the project on a present value basis is about 20 to 1, clearly making the project a high priority item. Just the avoidance of unemployment costs and long term highway impact are enough to justify the cost of the project. Also the traffic benefits to the BN alone, represent an *annual* contribution which is approximately equal to the present value cost of the project.

Another benefit not included in the study because of the difficultly to estimate is probability that NETA would perform its own in-plant switching versus contracting. with the BN to have this work performed. The proposed spur line would allow NETA to perform this work.

As an alternative to funding the project with government money, NETA could explore with the BN a commonly used contractual arrangement, whereby the railroad will build the siding at no cost to the shipper and provide NETA amortization credits based on the number of carloads shipped.

The spur line project clearly falls under Category 1 of project consideration.

Montana Western - Increase Railroad Bridge Clearance

Bridge 11.02, a 6 span steel trestle, carries the Rarus Railroad over the Montana Western tracks and Silverbow Creek. Montana Western trains cannot handle double stack container traffic because the height of the bridge is insufficient to clear such traffic. Though Montana Western is the primary beneficiary of the project, Rarus, the owner of the bridge, supports a project to either raise the bridge and/or lower Montana Western main line trackage to give an additional 8-10 inches of clearance.

Montana Western advises that the existing main line can only be lowered by approximately 6 inches because it also has two bridges spanning Silverbow Creek a short

distance on either side of the Rarus Bridge. Undercutting more than six inches would cause too much of a dip in the track and lower the railroad unacceptably close to the high water mark of the creek (increasing the risk of water damage to the track). The alternative is to shim the six span trestle of the Rarus by 4-6 inches to get the remaining clearance needed. The proposed benefits and costs of the project are summarized below.

EXHIBIT 5-5
SUMMARY OF BENEFITS AND COST OF PROPOSED PROJECT TO INCREASE BRIDGE CLEARANCE

	Ten Year Present Value
Transportation Efficiency Benefits	
Reduction in Transportation Costs	33,680
Increased Profits to Port of Montana	73,701
Improved Contribution to MW	158,242
Secondary Benefits	
Unemployment Costs Avoided	110,401
Highway Impacts Avoided	66,691
Salvage Value	0
Total Present Value	$442,615
Present Value of Costs	$260,000
Benefit/Cost Ratio	1.7

As the exhibit shows, the benefit to cost ratio is at least 1.7 to 1. The primary beneficiaries of the project will be the Port of Montana at Butte and the Montanan Western Railroad. The actual benefit to cost ratio may be substantially greater than estimated here because certain benefits were not possible to quantify for the analysis. They include:

- Increase contribution to the BN, MRL, and UP, both as a result of increased traffic and the lower cost of handling two containers destined to the Port of Montana on one car instead of two as presently required; and,

- Avoidance of possible accidents, as actually occurred in the last few years when a load too high to clear struck the bridge heavily damaging the equipment.

The project category for this project is 1, with additional long-term benefits for future consideration.

Central Montana Rail - Replacement of Concrete Deck Pans on Sage Creek, Judith River, and Indian Creek Trestles

All three bridges were originally built for the Chicago, Milwaukee, St. Paul and Pacific Railroad Company (The Milwaukee), circa 1912-1913. The state of Montana became the owner of the line and the bridges after the BN purchased the line in 1980 from the Milwaukee Road, and subsequently abandoned it. These bridges are located on a railroad line which has been leased to the Central Montana Rail, Inc.

Sage Creek Trestle

This bridge crosses Sage Creek at milepost 83.9. It is made up of 29 steel spans, a total length of 1,884 feet, and a maximum height of 168 feet. The bridge consists of simple span plate girders supporting a reinforced concrete deck pan. The deck pans retain ballast and have a steel pipe handrail along each side. Ninety pound jointed rail on timber cross ties is laid on top of the ballast. An engineering inspection by a qualified bridge engineer in July 1985 determined that many of the deck pans are in deteriorated condition. Approximately 10 percent have reinforcement rods exposed in large spalls. In many of them, the curbed section of the pan has completely deteriorated leaving only reinforcement exposed. Hand rails were also noted to be in poor condition.

Other defects were also noted, but not as serious as the above. The most immediate problem with the deteriorated bridge pans is the inability to retain ballast and subsequently support of the track. Since the inspection in 1985, little has been done to stabilize these the situation.

The most immediate concern is the high level of inspection and maintenance to maintain track in a stable and safe condition. While there appears to be no immediate danger, failure to arrest the problem will help accelerate further deterioration and further increase inspection and maintenance costs, ultimately rendering the bridge as unsafe.

The engineer's report in 1985 estimated that the total cost for deck pan replacement, pedestal repairs, and handrail repairs would total about $850,000. More recent information suggests that a local contractor could complete the repair for less than one-half of the estimate contained in the engineer's report.

Judith River Bridge

The Judith River Bridge is similar in construction to the Sage Creek Bridge. It consists of 33 steel spans and nine timber spans for a total length of 2,192 feet and a maximum height of 155 feet. This bridge was inspected at the same time as the Sage Creek Bridge by the same engineers. Their report noted that the deck pans are deteriorated throughout and approximately 25 percent of the pans have exposed reinforcement steel and show severe concrete spalling. In many of the pans, the curb section of the pan has completely deteriorated leaving only steel reinforcement rods exposed. Many of the pans will not retain ballast. Repairs for this bridge, to perform the same work as noted above for the Sage Creek Bridge, are also estimated at $850,000. Similar to Sage Creek, the

railroad reports that a local contractor could do the repair for less than one-half of the estimate contained in the engineer's report.

Indian Creek Trestle

No information was provided on the Indian Creek Bridge by CMR. The 1984 Rail Plan, however, noted an estimated cost to replace the reinforced concrete pan at an estimated $500,000. Additional cost to stabilize the approach slope and monitor construction brought total costs up to an estimated $911,000. Similar to Sage Creek, the railroad reports that a local contractor could do the repair for less than one-half of the estimate contained in the engineer's report.

Benefit/Cost Analysis

A summary of MDT's estimate of benefit/cost for repairing the Sage and Judith River Trestles is contained in Exhibit 5-6, based on the original engineer's report.

EXHIBIT 5-6
SUMMARY OF BENEFITS AND COST OF PROPOSED SAGE CREEK AND JUDITH RIVER BRIDGE REPAIRS

	Ten Year Present Value
Transportation Efficiency Benefits	
Reduction in Transportation Costs	0
Improved Contribution to CMR	220,803
Secondary Benefits	
Unemployment Costs Avoided*	76,981
Highway Impacts Avoided	0
Salvage Value	0
Total Present Value	$297,784
Present Value of Costs	$1,700,000
Benefit/Cost Ratio	0.2
*Based on construction employment.	

Based on the information provided, the project would be classified as Category 3—little or no consideration at this time. Even if the repairs were completed at one-half of the cost estimated in the engineer's report, the Benefit/Cost Ratio would rise to only 0.4. Should deterioration continue to the point where rail service to Geraldine is threatened, the null alternative would change from "continued operation on bad track" to abandonment, in

which case the benefits of making the repairs would increase greatly as a result of the avoided negative impacts of abandonment.

6 - RAIL PASSENGER SERVICE

AMTRAK

The National Railroad Passenger Corporation (Amtrak) provides daily rail passenger service across northern Montana, over BN's Chicago-Seattle Class 4 (up to 79 miles per hour) mainline. Service on the "Empire Builder" features modern, well equipped coach and first class (sleeper) service on the well-traveled passenger route. Montana stations are bounded by Libby in the west to Wolf Point in the east. Whitefish, Havre, Glacier Park, and Shelby have the most patronage. Exhibit 6-1 summarizes the number of passengers using Montana stations.

EXHIBIT 6-1
AMTRAK SERVICE AND RIDERSHIP
FISCAL YEARS 1983-1991

MONTANA STATIONS	AMTRAK CODE	TOTAL PASSENGERS - LOADING PLUS UNLOADING								
		1983	1984	1985	1986	1987	1988	1989	1990	1991
Belton (West Glacier)	BTN	4,156	3,952	3,920	3,781	4,211	3,908	4,105	3,898	5,335
Browning	BRO	2,082	1,795	1,779	2,227	2,135	3,383	1,222	1,505	922
Cut Bank	CUT	3,697	3,437	3,682	3,167	3,557	2,650	2,647	2,509	2,315
Essex	ESM	-	-	-	648	1,457	2,189	2,101	2,575	2,221
Glacier Park	GPK	8,870	10,375	8,825	7,629	8,108	7,484	11,199	10,054	13,259
Glasgow	GGW	6,928	8,651	8,447	7,687	6,851	6,617	6,212	6,089	6,412
Havre	HAV	20,163	22,087	20,487	19,072	17,419	18,650	16,614	17,441	17,570
Libby	LIB	4,265	4,484	4,131	4,292	4,728	4,286	4,009	3,686	3,440
Malta	MAL	4,031	4,424	4,149	3,837	3,381	3,332	3,327	3,547	3,425
Shelby	SBY	9,547	11,078	11,331	12,225	11,709	13,267	12,407	13,773	13,183
Whitefish	WFH	34,576	38,745	40,418	41,168	44,788	48,485	44,995	47,770	54,532
Wolf Point	WPT	12,468	12,475	18,404	12,791	11,312	12,156	9,470	9,194	8,612
Total Ridership		110,783	121,502	125,573	118,524	119,656	126,407	118,308	122,041	131,226

SOURCE: Amtrak, Office of Government Affairs

Among all Amtrak-served communities, Whitefish, Shelby, Havre, Glasgow and Wolf Point have bus and/or air passenger service alternatives. All other Amtrak-served communities are dependent solely on rail for commercial passenger transportation. Additionally, Amtrak provides many business owners delivery service. Shipments of medical and pharmaceutical supplies, fresh cut flowers, small farm parts for implement dealers and other shipments of package and express items are delivered daily by train. During severe weather, it is virtually the only means of travel in the northern portion of the

state. Amtrak's service along this route is very important to the state. Amtrak has no plans to reduce its service along this corridor.

Passenger service was discontinued in 1979 across southern Montana via Billings and Butte due to federal budget cuts. However, there continues to be public interest in providing service to more population centers, including Missoula, Helena, Butte, Bozeman, and Billings. One group, Nor-Rail, has presented Amtrak with several "403(b)" service proposals; such as, Helena to Spokane and service southward to Salt Lake City, both of which would connect to existing Amtrak trains.

In July 1992 Amtrak produced (as required by Public Law 101-322) an evaluation of service to areas not presently served. One route involving Montana is Seattle-Fargo-(Chicago) via Helena and Billings, and the other is Denver-Spokane-Portland/Seattle) via Laurel (Billings), Helena, and Missoula. While these routes provide transportation alternatives to southern Montana communities, they would require substantial operating subsidies as well as major investments in capital for equipment and facility improvements. With the limited funds, Amtrak currently is not in a position to consider these expansions.

Section 403(b) of the Rail Passenger Service Act allows Amtrak to run additional trains if a third party pays part of the expenses. In 1991 ten states were contracting for 403(b) rail passenger trains. Montana does not have any proposals before Amtrak at this time.

Congress is likely to re-introduce H.R. 4414 in 1993. This bill, which is gaining support, would, among other things, establish an intercity rail passenger capital improvement trust fund. Funded by a penny per gallon tax (gasoline and diesel fuel), this trust fund would sponsor some capital expenditures by Amtrak. New or additional services and station improvements could be wholly or partially funded under the bill. It is uncertain to what extent Montana could benefit, since there would be considerable competition for the funds generated. Also, the proposed 4.3 cent increase (July 1993) in fuel taxes may reduce the prospects of Congress adding another penny per gallon for this purpose.

The 1991 Intermodal Surface Transportation Act (ISTEA) provides some funding for states to develop, establish, and implement a management system for public transportation facilities and equipment, and intermodal transportation facilities and systems. One such application could be the development of feeder bus service in conjunction with existing Amtrak services in the state.

Amtrak does have a "Thruway Bus Connection" program which contracts with selected bus operators to connect areas near train stations on a single Amtrak ticket. This program is not in effect in Montana at this time. Other Amtrak bus connections may utilize independent bus or taxi service and may or may not require separate ticketing. The only independent bus service in Montana is connecting service between Shelby and Great Falls and Butte.

A growing number of transportation planners are considering creating "multi-modal" terminals like Washington's Union Station and Boston's South Station transportation centers. Multi-modal terminals make it easier for travelers to move to and from dispersed

local origins and destinations. Intermodal station projects which have received ISTEA grants include Orlando, Denver, San Antonio, Portland, ME, Chicago O'Hare, Detroit, Milwaukee, and Seattle. Population density in Montana may not currently support large multi-modal terminals of this nature. However, metropolitan planning organizations are examining possibilities based on each area's unique needs, opportunities and benefits.

APPENDIX A

MONTANA HIGHWAY CROSSING DATA

EXHIBIT A-1
MONTANA 1993 CIRCUITRY PROJECTS
STIP 1993
SUBMITTED 4-1993

County	Route	Project Number	Phase	Project Name	Proposed Work	Ready Date	Let Date	Total Construction Cost
Broadwater	City		PE/CN	MRL Townsend - Broadway St.	Circuitry	May 1993	Sept. 1993	Gates $65,000
Sanders	FAS 212		PE/CN	MRL Dixon - East 1.0 Mi.	Circuitry	May 1993	Sept. 1993	FL 65,000
Lewis & Clark	County		PE/CN	MRL Birdseye	Circuitry	May 1993	Sept. 1993	Gates 50,000
Deer Lodge	City		PE/CN	RARUS Anaconda - Cedar St.	Circuitry	June 1993	Oct. 1993	FL 60,000
Deer Lodge	City		PE	RARUS Anaconda FAP-19 Commercial Ave.	Circuitry	June 1993	Oct. 1993	Gates 60,000
Deer Lodge	City		PE	RARUS Anaconda FAP-19 Park Avenue	Circuitry	June 1993	Oct. 1993	Gates 60,000
Deer Lodge	City		PE	RARUS Anaconda FAU 0204 4th Street	Circuitry	June 1993	Oct. 1993	FL 60,000
Silver Bow	City		PE	NS & WRR Butte - Park Street	Signal Upgrade Circuitry	June 1993	Sept. 1993	FL 50,000
All	All	As Needed	CONST or CE	Crossing Closing Program	Pay to City or Country to Close Xing	Yearly Program	FY 1993	20,000
								490,000
							PE, CE	32,000
								$522,000

EXHIBIT A-2
MONTANA 1993 SIGNAL PROJECTS
STIP 1993
SUBMITTED 4-1993

County	Route	Project Number	Phase	Project Name	Proposed Work	Ready Date	Let Date	Total Construction Cost
Richland	County		PE/CN	BN Sidney - 1.5 Mi. So.	Signalization	1994	1995	FL $50,000
Missoula	County		PE/CN	MRL Frenchtown - West 4.5 Mi.	Signalization	1993	1994	FL 40,000
Richland	City		PE/CN	BN Sidney - Main St.	Signalization	1994	1995	Gates 70,000
Flathead	County		PE/CN	BN Coram - No. 1.0 Mi.	On 1992 STIP Signalization	1994	1995	Gates 70,000
Yellowstone	City		PE	MRL FAU - 1009 Billings - Daniel St.	On 1992 STIP Signalization	1993	1994	FL 50,000
Flathead	City		PE	BN Kalispell Foys Lake Rd. - FAU 6701	On 1992 STIP Signalization	1994	1995	Gates 70,000
Flathead	City		PE/CN	BN Columbia Falls Truck Route	On 1992 STIP Signalization	1994	1995	Gates 70,000
Glacier	County		PE/CN	BN Cut Bank - East 2.5 Mi.	On 1992 STIP Signalization	1994	1995	Gates 70,000
Richland	County		PE	BN Sidney - S.E.	On 1992 STIP Signalization	1994	1995	FL 50,000
Yellowstone	County		PE/CN	BN Worden - S.W. 2 Mi.	On 1993 STIP Signalization	1994	1995	FL 50,000
Gallatin	County		PE/CN	MRL Logan - City Street	On 1992 STIP Signalization	1993	1994	Gates 70,000
Lincoln	County		PE/CN	BN Eureka - Dewey Ave.	On 1992 STIP Signalization	1994	1995	Gates 70,000
Yellowstone	County		PE/CN	Billings - MRL Transbas Chemical	Signals	1993	1994	70,000
								800,000
							+PE/CE	= $852,000

EXHIBIT A-3
FEDERAL RAILROAD ADMINISTRATION
GRADE CROSSING PROGRAM CONTACTS FOR THE STATE OF MONTANA

FRA REGIONAL DIRECTOR

Chester Southern
Regional Director - VIII
Federal Railroad Administration
Crown Plaza Annex
1500 S.W. First Avenue, Room 250
Portland, OR 97201
(503) 326-3011

STATE INVENTORY CONTACT

John W. Lewis
Fail-Highway Safety Manager
Montana DOT
Rail & Transit Division
1424 9th Avenue
Helena, MT 59620
(406) 444-4377

OPERATION LIFESAVER CONTACT

Richard A. Flink
State Coordinator
Montana Operation Lifesaver
238 Lupfer Avenue
Whitefish, MT 59937
(406) 862-0262

STATE HIGHWAY CONTACT

Gerald L. Anders
Supervisor-Utilities Section
Montana Department of Highways
2701 Prospect Avenue
Helena, MT 59620
(406) 444-6080

RAILROADS CONTACTS

Brian P. Heikkila
Director
Montana Rail Link
201 International Way
P.O. Box 8779
Missoula, MT 59802
(509) 536-2291

Jerry R. Masters
Director Engr. Services
Burlington Northern Railroad
9401 Indian Creek Parkway
P.O. Box 29136
Overland Park, KS 66201-9136
(913) 661-4236

APPENDIX B

SHORT LINE PLANNER©

APPENDIX B
INPUTS TO ENHANCED VERSION OF THE SHORT LINE PLANNER©

The enhanced version of the Short Line Planner© was obtained from Corporate Strategies, Inc. (CSI) as part of its contract to help MDT develop this State Rail Plan. The model, represented as a Lotus 1-2-3® Windows® Version 1.1 spreadsheet, is but one tool available to the state for analyzing certain projects and for generating inputs to the Cost-Benefit Model described in Chapter 5. Outputs from the Short Line Planner© are illustrated in Chapter 3, using the proposed Tongue River Railroad, to be built between Miles City and Spring Creek, Montana, as an example of the model's capabilities.

In the appendix all exhibits are located at the end of the text material. Exhibits B-1 through B-6 summarize inputs to the Short Line Planner©. While some of the input information reported in the application is used, most inputs are nominal approximations of typical short line railroad industry figures. Montana does not have access to the proprietary data that Tongue River used in its application.

Exhibit B-1 summarizes inputs for the estimated annual carloads as developed from information from the application and the average tons per carload discussed above. Revenue per carload is based on the above average cost per net ton-mile times the distance to Miles City times the number of tons per car, rounded to the nearest $10. For traffic interchanged with the BN, the rate is reduced by 13 percent to adjust for the fact that the traffic does not originate on the Tongue River Railroad. Exhibit B-2 provides for other income (none was assumed) and assumptions regarding needed equipment which, for this study, has been assumed as being purchased and not leased.

Labor inputs, Exhibit B-3, are based on estimated requirements considering the railroad is likely to use both its own employees and outside contractors for heavier track repair work. The same is true for maintenance of equipment. This analysis further assumes that Tongue River will provide the transportation and does not consider the possibility that Tongue River and BN might negotiate a trackage rights agreement for BN to operate its own locomotives and crews over the Tongue River Railroad.

Exhibit B-4 provides similar estimates for departmental material and other expenses. Inputs are, again, based on reasonable estimates without contact with, or specific information from, Tongue River management. Inputs to the Short Line Planner© do not attempt to represent what Tongue River management may have assumed, nor do they necessarily reflect what the state requires as needed or essential. These inputs serve only as a framework for an independent assessment of the potential viability of the Tongue River Railroad under certain assumptions contained in the ICC application.

Exhibit B-5 summarizes an approximate operating plan for the proposed railroad, used by the model to generate operating statistics and costs related to those statistics. Exhibit B-6 is an estimate of asset, liability, and equity inputs not previously provided for. Non-depreciable property (land) was arbitrarily estimated at $25,000 per track mile. No attempt was made to validate the reasonableness or unreasonableness of this assumption.

EXHIBIT B - 1
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

ORIGINATING TRAFFIC	From Last Station	Annual Carloads	Annual Carloads	Annual Carloads	Annual Carloads	Annual Carloads
SEGMENT 1 - MILES CITY						
MILES CITY	0.0					
ASHLAND	73.0					
Total Segment 1	73.0	0	0	0	0	0
SEGMENT 2 - SPRING CREEK						
ASHLAND	0.0					
SPRING CREEK (Local Mines)	50.0	134,000	143,500	143,500	143,500	143,500
BN - Wyoming	0.0	28,700	38,300	57,400	57,400	57,400
Total Segment 2	50.0	162,700	181,800	200,900	200,900	200,900
SEGMENT 3 - LOCAL MINES						
ASHLAND	0.0					
LOCAL MINES	7.0	19,100	28,700	38,300	47,800	57,400
Total Segment 3	7.0	19,100	28,700	38,300	47,800	57,400
SEGMENT 4 -						
	0.0					
Total Segment 4	0.0	0	0	0	0	0
SEGMENT 5 -						
	0.0					
Total Segment 5	0.0	0	0	0	0	0
TOTAL ORIGINATING		181,800	210,500	239,200	248,700	258,300

BRIDGE TRAFFIC	Year 1 Annual Carloads	Year 2 Annual Carloads	Year 3 Annual Carloads	Year 4 Annual Carloads	Year 5 Annual Carloads
Overhead Movement A	0	0	0	0	0
Overhead Movement B	0	0	0	0	0
Overhead Movement C	0	0	0	0	0
Overhead Movement D	0	0	0	0	0
Overhead Movement E	0	0	0	0	0
TOTAL BRIDGE	0	0	0	0	0
TOTAL RAILROAD	181800	210500	239200	248700	258300

EXHIBIT B - 2

THE SHORT LINE PLANNER (c)

TONGUE RIVER RAILROAD

YEARS 1 TO 5 - CONSTANT DOLLARS

OTHER INCOME	Year 1	Year 2	Year 3	Year 4	Year 5
Property Rents	$0	$0	$0	$0	$0
Interest	$0	$0	$0	$0	$0
(User Specified)	$0	$0	$0	$0	$0
(User Specified)	$0	$0	$0	$0	$0
(User Specified)	$0	$0	$0	$0	$0

SWITCHING & DEMURRAGE	Yr1 Ave $/Car	---- Annual Cars Charged ---- Year 1	Year 2	Year 3	Year 4	Year 5
* SWITCHING *						
Segment 1	$0	0	0	0	0	0
Segment 2	$0	0	0	0	0	0
Segment 3	$0	0	0	0	0	0
Segment 4	$0	0	0	0	0	0
Segment 5	$0	0	0	0	0	0
* DEMURRAGE *	$0	0	0	0	0	0

EQUIPMENT AND PROPERTY OWNED	Dept.	Number of Units	Average Purchase Cost	Service Life	Ave Age Yr 0	ACRS Tax Life
Locomotives	MofE	12	$900,000	7	0	7
Locomotives	MofE	3	$180,000	0	0	7
Ballast Cars	MofE	20	$15,000	7	0	7
Flat Cars	MofE	3	$10,000	7	0	7
Box Cars	MofE	8	$11,000	7	0	7
Vehicles	MofE	2	$18,000	5	0	5
MofW Machinery - Hi-Rail	MofW&S	2	$26,000	7	0	7
MofW - Hi Rail PickUp Trucks	MofW&S	3	$24,000	5	0	7
MofW - Section Trucks	MofW&S	2	$27,000	5	0	7
MofW Machinery - Other	MofW&S	0	$0	7	0	7
Vehicles	MofW&S	1	$30,000	5	0	5
Vehicles	MofW&S	0	$0	0	0	5
Track, Signals, Communicatn	MofW&S	- -	$90,000,000	7	0	7
Bridges, Other Rdwy Impr	MofW&S	- -	$140,000,000	7	0	20
Buildings	MofW&S	- -	$500,000	20	0	20
Office or Computer Eq.	G&A	1	$30,000	3	0	7
Amortizable Asset	G&A	1	$25,000,000	7	0	N/A
Total Depreciable/Amort. Assets		$267,532,000				

EXHIBIT B - 3
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

DEPARTMENTAL LABOR	---- Number of Employees --- Year 1	Year 2	Year 3	Year 4	Year 5	$ Rate Basis
Employees and Wages						
Maintenance of Way & Structures						
Track Supervisor	1.0	1.0	1.0	1.0	1.0	$30,000 per Year
Foreman	2.0	2.0	2.0	2.0	2.0	$26,000 per Year
Equipment Operators	2.0	2.0	2.0	3.0	4.0	$24,000 per Year
Laborers - Full Time	6.0	8.0	10.0	12.0	13.0	$22,000 per Year
- Hourly	2.0	4.0	6.0	8.0	12.0	$10.00 per Hour
Paid Days @ 8 Hrs/Day	180.0	180.0	180.0	180.0	180.0	- - per Year
Track inspectors	1.0	1.0	1.0	1.0	1.0	$25,000 per Year
Maintenance of Equipment						
Supervisor	1.0	1.0	1.0	1.0	1.0	$35,000 per Year
Assistant	1.0	1.0	1.0	1.0	1.0	$30,000 per Year
Mechanics & Other Employees	8.0	9.0	10.0	11.0	12.0	$25,000 per Year
inspectors	2.0	2.0	2.0	2.0	2.0	$23,000 per Year
Transportation - Road						
Enginemen - Hourly and/or	0.0	0.0	0.0	0.0	0.0	$0.00 /Crew-Hour
Mileage Basis	- -	- -	- -	- -	- -	$0.000 /Crew-Mile
- Salaried	9.0	10.0	12.0	12.0	12.0	$35,000 per Year
Trainmen Hourly and/or	0.0	0.0	0.0	0.0	0.0	$0.00 per Hour
Mileage Basis	- -	- -	- -	- -	- -	$0.000 per Mile
- Salaried	9.0	10.0	12.0	12.0	12.0	$35,000 per Year
Station Agents	0.0	0.0	0.0	0.0	0.0	$0 per Year
Clerks	0.0	0.0	0.0	0.0	0.0	$0 per Year
(User Specified - Trans)	0.0	0.0	0.0	0.0	0.0	$0 per Year
Transportation - Yard						
Enginemen - Hourly Basis	0.0	0.0	0.0	0.0	0.0	$0.00 /Crew-Hour
- Salaried	0.0	0.0	0.0	0.0	0.0	$0 per Year
Groundsmen - Hourly Basis	0.0	0.0	0.0	0.0	0.0	$0.00 /Crew-Hour
- Salaried	0.0	0.0	0.0	0.0	0.0	$0 per Year
Other Yard Personnel	0.0	0.0	0.0	0.0	0.0	$0 per Year
Clerks	0.0	0.0	0.0	0.0	0.0	$0 per Year
(User Specified - Trans)	0.0	0.0	0.0	0.0	0.0	$0 per Year
Marketing and Sales						
Customer Service Manager	1.0	1.0	1.0	1.0	1.0	$40,000 per Year
(User Specified - M & S)	0.0	0.0	0.0	0.0	0.0	$0 per Year
General						
General Manager	1.0	1.0	1.0	1.0	1.0	$70,000 per Year
Administrative Assistant	2.0	3.0	3.0	3.0	3.0	$30,000 Per Year
Other Office Personnel	5.0	5.0	5.0	5.0	6.0	$20,000 Per Year
(User Specified - G & A)	0.0	0.0	0.0	0.0	0.0	$0 per Year
(User Specified - G & A)	0.0	0.0	0.0	0.0	0.0	$0 per Year

EXHIBIT B - 4
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

DEPARMENTAL MATERIAL & OTHER

Equipment and Material	Amount					
Maintenance of Way	Year 1	Year 2	Year 3	Year 4	Year 5	Unit Cost
Ties Purchased & Cost/Tie	50	100	150	200	250	$19.00 Each
Rail (Tons) & Cost/Ton	5	5	5	5	5	$450.00 Per Ton
Ballast Laid (Tons) & Cost/Ton	500	500	500	1,000	1,000	$13.00 Per Ton
Other Track Material	$6,000	$7,000	$8,000	$9,000	$11,000	- - Per Year
Small Tools and Oper. Supplies	$4,000	$6,000	$7,000	$8,000	$9,000	- - Per Year
Structures Maintenance	$1,000	$2,000	$3,000	$4,000	$5,000	- - Per Year
Vegetation Control	$20,000	$20,000	$20,000	$20,000	$20,000	- - Per Year
Crossings and Signals	$5,000	$5,000	$5,000	$5,000	$5,000	- - Per Year
Contract Maintenance Expense	$366,000	$488,000	$732,000	$854,000	$976,000	- - Per Year
(User Specified - M of W)	$0	$0	$0	$0	$0	- - Per Year
(User Specified - M of W)	$0	$0	$0	$0	$0	- - Per Year
Accrued Maintenance Expense	$0	$0	$0	$0	$0	- - Per Year
Maintenance of Equipment						
Small Tools and Oper. Supplies	$7,000	$8,000	$9,000	$9,000	$10,000	- - Per Year
Parts for Equipment Maintenance	$5,000	$5,000	$6,000	$8,000	$10,000	- - Per Year
Freight Car Equipment Maintenance	--	--	--	--	--	$0.000 Per Car-Mile
Locomotive Running Maintenance	--	--	--	--	--	$0.000 Per Unit-Mile
Locomotive Heavy Maintenance	$0	$0	$0	$50,000	$100,000	- - Per Year
Loco Contract Maint (No. of Units)	12	12	12	12	12	$20,000 Per Year
Other Locomotive Repair	$12,000	$12,000	$12,000	$12,000	$12,000	- - Per Year

Transportation	Unit Cost	Unit	Transportation	Unit Cost	Unit
Train Supplies & Exp.	$0.003	Car-Mile	Frt Claims,% of Frt Rev	0.5%	Percent
Fuel Cost Per Gallon	$0.80	Gallon	Derailments & Injuries	$0.250	Train-Mile
Fuel - Gal/LUM (Road)	1.200	Unit-Mile	Fuel - Gal/Hour (Idle)	5.0	Road Unit
Fuel - Gal/MGTM (Road)	0.800	1000 GTM	Fuel - Gal/Hr (Swtchng)	44.0	Yard Unit

Communications Eqpt. Maintenance	$4,000	$4,000	$4,000	$4,000	$4,000	Per Year
Contract Services - C&S	$20,000	$20,000	$20,000	$20,000	$20,000	Per Year
Joint Facilities Rents	$0	$0	$0	$0	$0	Per Year
Other Expense Inputs (G & A)						
Benefits, % of Direct Wages Pd	42%	42%	42%	42%	42%	Percent
Tariffs	$0	$0	$0	$0	$0	Per Year
Advertising, Dues, & Misc	$0	$0	$0	$0	$0	Per Year
Freight Car Accounting - Annual	$6,000	$6,000	$6,000	$6,000	$6,000	Per Year
- Per Car	$0.30	$0.30	$0.30	$0.30	$0.30	Per Car (Ldd OR Mty)
Interline Settlements - Annual	$6,000	$6,000	$6,000	$6,000	$6,000	Per Year
- Per Car	$0.30	$0.30	$0.30	$0.30	$0.30	Per Load
Insurance - Gen Lia., Fixed Amt.	$120,000	$120,000	$120,000	$120,000	$120,000	Per Year
Insurance - Gen Lia., % of Payroll	12.0%	12.0%	12.0%	12.0%	12.0%	Percent
- Fire & Theft	$10,000	$10,000	$10,000	$10,000	$10,000	Per Year
- Rolling Stock	$15,000	$15,000	$15,000	$15,000	$15,000	Per Year
Outside Accounting/Auditing	$25,000	$25,000	$25,000	$25,000	$25,000	Per Year
Legal Services	$15,000	$15,000	$15,000	$15,000	$15,000	Per Year
Automobile Expenses	$5,000	$5,000	$5,000	$5,000	$5,000	Per Year
Office Expenses (Phone, Suppl, Misc)	$4,000	$5,000	$5,000	$6,000	$7,000	Per Year
Utilities	$15,000	$15,000	$15,000	$15,000	$15,000	Per Year
Travel & Entertainment	$3,000	$3,000	$3,000	$3,000	$3,000	Per Year
Property Taxes	$500,000	$500,000	$500,000	$500,000	$500,000	Per Year
Rentals - Buildings and Property	$0	$0	$0	$0	$0	Per Year
Contingency	3%	3%	3%	3%	3%	Pct of Oper. Expenses

EXHIBIT B - 5
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

OPERATING PLAN

SEGMENT 1: MILES CITY

	Year 1	Year 2	Year 3	Year 4	Year 5
Units per Train	3.0	3.0	3.0	3.0	3.0
Round Trips per Week	30.3	35.1	39.9	41.5	43.1
Ave. Operating Speed (MPH)	40.0	40.0	40.0	40.0	40.0
Ave. Stops per Round Trip	0.0	0.0	0.0	0.0	0.0
Average Minutes per Stop	0.0	0.0	0.0	0.0	0.0
Yard Switching Tricks/Week	0.0	0.0	0.0	0.0	0.0
% Overtime - Road Crews	0%	0%	0%	0%	0%
% Overtime, Yard Crews	0%	0%	0%	0%	0%

SEGMENT 2: SPRING CREEK

	Year 1	Year 2	Year 3	Year 4	Year 5
Units per Train	3.0	3.0	3.0	3.0	3.0
Round Trips per Week	27.1	30.3	33.5	33.5	33.5
Ave. Operating Speed (MPH)	40.0	40.0	40.0	40.0	40.0
Ave. Stops per Round Trip	1.0	1.0	1.0	1.0	1.0
Average Minutes per Stop	210.0	210.0	210.0	210.0	210.0
Yard Switching Tricks/Week	0.0	0.0	0.0	0.0	0.0
% Overtime - Road Crews	0%	0%	0%	0%	0%
% Overtime, Yard Crews	0%	0%	0%	0%	0%

SEGMENT 3: LOCAL MINES

	Year 1	Year 2	Year 3	Year 4	Year 5
Units per Train	3.0	3.0	3.0	3.0	3.0
Round Trips per Week	3.2	4.8	6.4	8.0	9.6
Ave. Operating Speed (MPH)	40.0	40.0	40.0	40.0	40.0
Ave. Stops per Round Trip	1.0	0.0	0.0	0.0	0.0
Average Minutes per Stop	210.0	210.0	210.0	210.0	210.0
Yard Switching Tricks/Week	0.0	0.0	0.0	0.0	0.0
% Overtime - Road Crews	0%	0%	0%	0%	0%
% Overtime, Yard Crews	0%	0%	0%	0%	0%

MORE >>>

SEGMENT 4:

	Year 1	Year 2	Year 3	Year 4	Year 5
Units per Train	0.0	0.0	0.0	0.0	0.0
Round Trips per Week	0.0	0.0	0.0	0.0	0.0
Ave. Operating Speed (MPH)	0.0	0.0	0.0	0.0	0.0
Ave. Stops per Round Trip	0.0	0.0	0.0	0.0	0.0
Average Minutes per Stop	0.0	0.0	0.0	0.0	0.0
Yard Switching Tricks/Week	0.0	0.0	0.0	0.0	0.0
% Overtime - Road Crews	0%	0%	0%	0%	0%
% Overtime, Yard Crews	0%	0%	0%	0%	0%

MORE >>>

LONG TERM DEBT

Use Loans A and B for debt incurred at or prior to the beginning of Year 1. Input the remaining loan balance and the remaining term.

	Loan A	Loan B
Annual (Simple) Interest Rate (APR)	9.0%	9.0%
Loan Balance, Begin Year 1	$199,000,000	$0
Amortization Schedule, Remaining Years	25	0
Balloon Payment Year	0	0

Use Loans C and D for debt incurred after the end of Year 0 to any point up to the end of Year 5. Input the original loan balance, the term, and the year within the study period that the debt was incurred.

	Loan C	Loan D
Beginning Year of Loan	99	99
Annual (Simple) Interest Rate (APR)	0.0%	0.0%
Initial Loan Amount	$0	$0
Amortization Schedule, Years	0	0
Balloon Payment Year	0	0

EXHIBIT B - 6
THE SHORT LINE PLANNER (c)
TONGUE RIVER RAILROAD
YEARS 1 TO 5 - CONSTANT DOLLARS

OTHER ASSET, LIABILITY, AND EQUITY INPUTS	Start (Year 0)	Year 1	Year 2	Year 3	Year 4	Year 5
Current Assets	(OMIT SIGN)					
Cash & Short Term Invest.	$3,418,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
Accounts Receivable	$0 Pct of Total Revenue >	8.2%	8.2%	8.2%	8.2%	8.2%
Materials & Supplies	$0 Pct of M & S Expense >	4.0%	4.0%	4.0%	4.0%	4.0%
Pre-Paid Insurance	$0 Yr End Dollar Balance >	$0	$0	$0	$0	$0
Investments & Other Assets (Book Value)						
Track, Bridges, Tunnels & Other Roadway Improv.	$230,000,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
Buildings	$500,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
Other Depreciable Property	$30,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
(Accumulated Deprn)	$0 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
Locomotives	$11,340,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
Rolling Stock	$418,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
(Accumulated Deprn)	$0 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
MofE Vehicles	$36,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
MofW Vehicles	$30,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
(Accumulated Deprn)	$0 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
Maint. of Way Machinery	$178,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
(Accumulated Deprn)	$0 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
Non-Depreciable Property	$3,050,000 Yr End Dollar Balance >	$3,050,000	$3,050,000	$3,050,000	$3,050,000	$3,050,000
Other Investments (Net)	$0 Yr End Dollar Balance >	$0	$0	$0	$0	$0
Amortizable Assets	$25,000,000 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
(Accum. Amortization)	$0 (Yrs 1-5 Calc. by Model)	--	--	--	--	--
Current Liabilities	(OMIT SIGN)					
Accounts Payable	$0 Pct of Gross Expenses >	8.2%	8.2%	8.2%	8.2%	8.2%
Income Taxes Payable	$0 Pct of Tax Liability >	0.0%	0.0%	0.0%	0.0%	0.0%
Other	$0 Yr End Dollar Balance >	$0	$0	$0	$0	$0
Other Noncurrent Liabilities	$0 Yr End Dollar Balance >	$0	$0	$0	$0	$0
Equity						
Stock Units Units Outstanding	7,500,000 Units Outstanding >	7,500,000	7,500,000	7,500,000	7,500,000	7,500,000
Equity Capital	$75,000,000 Yr End Dollar Balance >	$75,000,000	$75,000,000	$75,000,000	$75,000,000	$75,000,000
Capital Contributions	$0 Yr End Dollar Balance >	$0	$0	$0	$0	$0
Capital Paid Out	-- $ Paid at End of Year >	$0	$0	$0	$0	$0
Subordinated Capital Contributions	$0 (Yrs 1-5 Calc. by Model)	--	--	--	--	--

BALANCE SHEET CHECK TOTALS: Year 0

Total Assets	$274,000,000	Out of Balance By:
Total Liabilities	$274,000,000	$0.00

APPENDIX C

BENEFIT COST MODEL

APPENDIX C
BENEFIT-COST MODEL

As a beginning step in improving the state's capability to analyze and rank alternatives, the state developed a benefit-cost model which closely follows the FRA's 1990 guidelines entitled, *Benefit-Cost Methodology for the Local Rail Freight Assistance Program.* Since the guidelines provide for considerable flexibility on how costs and benefits are calculated, a rigorous, formula based methodology may not be able to meet all special case considerations. The model was designed, however, to provide for some flexibility in estimating benefits and costs. It also can handle a wide variety of alternatives and serves to help define data.

Chapter 5 summarizes three projects evaluated by the model. The model was used to develop inputs step-by-step and to process those inputs in intermediate worksheets. The final worksheet in the model calculates present value benefits, present value costs, and the resulting benefit to cost ratio. Printouts for each of the three projects evaluated are contained at the end of this appendix. Each of the three examples illustrates how the model works and how to use it, as described in the following section.

USING THE BENEFIT-COST MODEL

The benefit-cost model is written as a Lotus/W 1-2-3 worksheet. This appendix assumes that the user has familiarity with Windows and also with Lotus 1-2-3, Windows version. It is also presumed that the user has knowledge of the FRA's 1990 benefit-cost methodology guidelines.

The benefit-cost model is divided into 11 separate worksheets:

A - Project Description and Classification (information only)

B - Project Identification Information

C - Line Inventory (information only)

D - Commodity and Traffic Data (for up to 10 commodities)

E - Employment Impact Information

F - Relocation Impact Sheet

G - Branch Line Revenue and Expense Input Sheet

H - Project Cost Input Sheet (for years 0-9)

I - Benefits Analysis Worksheet 1 (Transportation Efficiencies from Input Worksheet D)

J - Benefits Analysis Worksheet 2 (Transportation Efficiencies from Input Worksheets E-H)

K - Calculation of Present Value and Benefit-Cost Ratio.

A brief description of each of these worksheets and how to use them follows.

Worksheet A - Project Description and Classification

As in all worksheets, A through H, items shown on the screen in yellow boxes represent input fields. The data should always be entered in the first cell of each field where the field may span more than one cell. When using the benefit-cost model, it is not necessary that all cells contain data. Only information available and relevant to the project needs to be entered.

The Project Name or description goes on the first line. The Project Alternative, which can include the Null Alternative (such as abandonment or do nothing), is entered in the block reserved for the description. The Project Category includes one of five types—the four listed or the project category that the user defines (under Category 5). Enter a number 1 through 5 in the Category choice input cell. If a number from 1 to 4 is chosen, the available options for the "null" alternative appear under Line 2 "Choose the Null Alternative." If 5 is specified as the project category, blanks appear under the choice of Null Alternative. In this case, the Null Alternative must be entered in block C. Based on project category entries 1 to 4, one or two of the following six options are defined by the model as the Null Alternative.

- Abandonment
- Continued Operation on Poor Track
- Non-resumption of Service
- Continued Operation
- Transportation Service Continues As Is
- Transportation is Changed (Abandoned)

After choosing the Project Alternative choose the Null Alternative presented. You may choose from among the one or two choices automatically provided (if 1 to 4 was selected as Project Alternative) or you may enter your own Null Alternative under line 2C if a 5 has been entered as the Project Category. The entry for the Null Alternative **must be in capital letters**. If there are descriptions of the Null Alternative under 2A or 2B, the model will list the Benefit Categories that the user should consider. If there are no Null Alternatives under 2A or 2B, Benefit Categories cannot be defined by the model and it is up to the user to determine which benefit categories are to be considered. The listing of the benefit categories is intended to help the user select applicable worksheets for the project being evaluated.

The list of Benefit Categories that have been defined by the model are:

- Difference between rates charged for service by alternate mode and rates charged for rail.

- Shipper business profits on traffic that would not move without rehabilitation.

- Branch line projects operating profit. (If a loss is projected, this amount is negative.)

- Labor output that would be lost without rehabilitation.

- Cost of moving businesses, if move would occur with abandonment.

- Increased cost of maintaining/repairing roads if modal-shift occurs with abandonment.

- Salvage value of entire line at end of planning horizon.

- Increase in branch line profits after rehabilitation.

- Any decrease in rates on traffic moving under both alternatives.

- Shipper business profits on traffic that would not move without rehabilitation.

- Salvage value of rehabilitation materials at end of planning horizon.

The combination of the Project Category and the Null Alternative (Lines 1 and 2) determine what Cost Categories you need to consider when entering data on the following worksheets. The various Cost Categories used by the model (based on combinations of project category and Null Alternative) are listed below.

- Cost of rehabilitation materials and labor including the present value of any future rehabilitation.

- Net liquidation value of line prior to rehabilitation.

- Cost of rehabilitation materials & labor.

- As a cost offset, the value of any materials released which are sold or used elsewhere.

- Cost of rehabilitation materials and labor including the present value of any future rehabilitation.

- Net liquidation value of line prior to rehabilitation.

- Cost of acquiring the line. Including the present value of any future rehabilitation requirements.
- Cost of materials and labor for the capital improvement.
- Present value of any future rehabilitation required to keep line operating or reopen it.
- Cost of materials and labor for the capital improvement.
- Present value of any future rehabilitation required.

Lines 3 and 4 show the default values of the FRA planning horizon and discount rate, currently at 10 years and 6 percent. Should they change in the future, enter the revised values in Line 3 or 4. Lines 5 and 6 are estimates of the Average State Unemployment Cost Factor, which have been assumed as $500 per month for six months, per person. The highway maintenance cost mile, per ton has been assumed at $.0031. Should different values apply, enter the appropriate value.

Worksheet B - Project Identification Information

This worksheet provides for basic information about the owner, operator, and point of contact for the project. The Line Identification provides for a current description of the line and the project being evaluated. Line Extensions may be no or yes (indicating that there are other branches off the current line identified). List interchanges, if any, and current ICC status (category 1 to 5).

Worksheet C - Line Inventory (Information Only)

As applicable, general inventory information about the Current Line, the Project, and the Null Alternative are requested. Each item is self explanatory.

Worksheet D - Commodity and Traffic Data

As appropriate for each of one to ten commodities, enter the commodity description as it relates to the project (versus the Null Alternative). The traffic related to the project may either be total traffic or only incremental (new) traffic. The traffic level listed under the Null Alternative should be compatible with that listed under the project—either base traffic or zero, which ever is appropriate. In some projects where there are no changes in traffic or its cost, traffic information may be left blank.

In cases where highway traffic may change as a result of the project, list highway traffic information resulting from the project versus the Null Alternative (again compatible with the approach used for rail traffic). The highway statistics section relates to the highway traffic noted above and is used to calculate highway impacts.

In some cases, the shipper (not the railroad) may realize increased profitability that is due to other than a reduction in transportation costs (such as selling a greater volume).

Where known, the increased profit to the shipper may be entered into this column. This is translated to a benefit in a later worksheet.

Currently, the model does not allow traffic to grow in subsequent years. The user may, however, introduce growth by changing appropriate formulas in later worksheets of the model.

Worksheet E - Employment Impact Information

As a result of the project, employment with the railroad and/or for the shippers may increase or decrease under either the Project or the Null Alternative. Enter the appropriate increase or decrease in employment that may result from the Project or the Null Alternative. Enter the same information for truckers or any other party that may be related to the Project or Null Alternative.

Worksheet F - Relocation Impact Sheet

In cases where a shipper may be forced to relocate if either the Project or Null Alternative is carried out, enter the total estimated cost of relocation for each shipper which may be affected. The bottom section of the worksheet provides for similar impacts to parties other than shippers (such as receivers).

Worksheet G - Branch Line Revenue and Expense Input Sheet

As a result of the Project, a railroad's revenues and expenses may change or, alternatively, under the Null Alternative, revenues and expenses may change. Enter the best information that is available. If the difference between revenues and costs increase, results will be translated as a positive benefit on Net Present Value Summary Worksheet. Conversely, if there is a reduction in the difference between revenue minus cost, the results will show up as a negative benefit. This worksheet can be a difficult sheet to complete as information requested is not always available. To the extent information is not available, neither the related impact of positive or negative benefits will be calculated by the model.

Worksheet H - Project Cost Input Sheet

For each year in the project, enter the estimated material, equipment, and labor costs. There are two categories of salvage—the first relates to material salvaged during the project which is translated as a direct offset to cost. The second salvage category applies to the end of the project. The second salvage value is treated as a net present valued benefit.

Worksheet I - Benefits Analysis Worksheet 1 - Transportation Efficiencies

This worksheet requires no entries and is simply a summary of the transportation benefits resulting from the Project, divided into the following three categories:

- Reduced transportation cost to shipper on base traffic;
- Shipper profit on incremental traffic; and,

- Branch line operating profit (loss).

Worksheet J - Benefits Analysis Worksheet 2 - Transportation Efficiencies

This is a second summary of project benefits calculated from worksheets E - H. They include the following categories:

- Reduction in unemployment;
- Savings in relocation expenses;
- Saving in highway impacts; and,
- Salvage value at the end of project life.

Worksheet K - Calculation of Present Value and Benefit-cost Ratio

This sheet summarizes each of the six items of benefits. It also summarizes the present value of those benefits, the present value of the cost, and the benefit-cost ratio resulting from dividing the present value of benefits by the present value of costs.

While the benefit-cost model, as designed, may not address every specific project which could occur, it provides for much of the information and discipline in seeking information upon which to evaluate and rank different projects.

COST BENEFIT MODEL

WORKSHEET A

PROJECT DESCRIPTION AND CLASSIFICATION

PROJECT NAME	NETA - PORT OF SHELBY - RAILROAD SPUR LINE	
PROJECT ALTERNATIVE		
Defer Construction Until Funds Can Be Obtained		
1 CHOOSE THE PROJECT CATEGORY:	4	NEW CONSTRUCTION
1 REHABILITATION & CONTINUED OPERATION		
2 REHABILITATION AND RESUMPTION OF SERVICE		
3 ACQUISITION WITH CONTINUED OPERATION		
4 NEW CONSTRUCTION		
5 WRITE IN YOUR OWN ON TOP OF THIS		
2 CHOOSE THE NULL ALTERNATIVE	A	TRANSPORTATION SERVICE CONTINUES AS IS
A TRANSPORTATION SERVICE CONTINUES AS IS		
B TRANSPORTATION SERVICE IS CHANGED (abandonded)		
C		
3 CONFIRM THE FRA STANDARD PLANNING HORIZON	10	YEARS
4 CONFIRM THE FRA PUBLISHED DISCOUNT RATE	6%	
5 ENTER THE AVERAGE STATE UNEMPLOYMENT COST FACTOR	$3,000	PER PERSON - 6 MONTHS * $500/MONTH
6 ENTER THE HIGHWAY MAINTENANCE COST PER TON-MILE	0.0031	PER NET TON-MILE

BENEFITS CATEGORIES (Default or User Input)

Increase in branch line profits after rehabilitation.
Any decrease in rates on traffic moving under both alternatives
Shipper business profits on traffic that would not move without rehabilitation.
Salvage value of rehabilitation materials at end of planning horizon.

COST CATEGORIES

Cost of materials and labor for the capital improvement.
Present value of any future rehabilitation required to keep line operating or reopen it.

COST BENEFIT MODEL

WORKSHEET B

PROJECT INDENTIFICATION INFORMATION

CARRIER	Burlington Northen Railroad	
OWNER	Northern Express Transportation Authority (NETA)	
OPERATOR	Northern Express Transportation Authority (NETA)	
POINT OF CONTACT	Larry Bonderud	
TITLE	General Manager	
PHONE NUMBER	(406) 434-5203	
FAX NUMBER	(406) 434-2761	
ADDRESS	301 South 1st St. Suite 3	
CITY, STATE, ZIP	Shelby, MT 59474	
LINE IDENTIFICATION	CURRENT	PROJECT
NAME OF ENDPOINT 1	Shelby, MT	Spur Line
MILEPOST		
NAME OF ENDPOINT 2		
MILEPOST		
LENGTH	1158 Ft	780 Ft
COUNTIES	Toole	Toole
LINE EXTENSIONS		
INTERCHANGES	BN	
ICC STATUS		

WORKSHEET C

LINE INVENTORY - INFORMATION ONLY

LINE INVENTORY	CURRENT	PROJECT	NULL ALTERNATIVE
RAIL			
JOINTED OR CONTINUOUS WELD	115	115	None
WEIGHT			
POUNDS OF MOST RAIL	115	115	None
PERCENTAGE OF TOTAL LINE	100%	100%	
POUNDS OF NEXT MOST RAIL	0	0	
PERCENTAGE OF NEXT MOST RAIL	0%	0%	
CONDITION			
OF MOST RAIL	Good	Relay	
OF NEXT MOST RAIL			
TIES			
PRINCIPAL TYPE (WOOD, OTHER)	Wood	Wood	
PERCENT DEFECTIVE	0%	0%	
WEIGHT RESTRICTIONS (POUNDS)	263,000	263,000	

COST BENEFIT MODEL

WORKSHEET D

COMMODITY AND TRAFFIC DATA

COMMODITY SHIPMENTS PROFILE	Total			Commodity 1 Consolidated/Transload Traffic		Commodity 2		Commodity 3	
	PROJECT	NULL	DIFFERENCE	PROJECT	NULL	PROJECT	NULL	PROJECT	NULL
RAIL TRAFFIC									
SHIPMENT COST	$562,500	$0	$562,500	$562,500	$0	$0	$0	$0	$0
RAIL TONS	22,500	0	22,500	22,500				0	0
RATE PER TON				$25.00				$0.00	$0.00
HIGHWAY TRAFFIC									
SHIPMENT COST	$0	$450,000	($450,000)	$0	$450,000	$0	$0	$0	$0
TOTAL HIGHWAY TONS	0	11,250	(11,250)		11,250			0	0
RATE PER TON					$40.00			$0.00	$0.00
HIGHWAY STATISTICS									
TRUCKLOADS	0	260	(260)	0	250	0	10	0	0
AVE TRUCK HAUL, MILES	0	740	(740)	0	340	0	400	0	0
MAINTENANCE COST PER TON-MILE				$0.00306	$0.00306	$0.00306	$0.00306	$0.00306	$0.00306
SHIPMENT STATISTICS									
TOTAL TRAFFIC TONS	22,500	11,250	11,250	22,500	11,250	0	0	0	0
BASE TRAFFIC COSTS	$281,250	$450,000	($168,750)	$281,250	$450,000	$0	$0	$0	$0
BASE TRAFFIC TONS	11,250	11,250	0	11,250	11,250	0	0	0	0
RATE PER TON				$25.000	$40.000	$0.000	$0.000	$0.000	$0.000
INCREMENTAL TRAFFIC COSTS	$281,250	$0	$281,250	$281,250		$0		$0	
INCREMENTAL TRAFFIC TONS	11,250	0	11,250	11,250		0		0	
RATE PER TON				$25.00		$0.00		$0.00	
GROSS INCR. IN SHIPR'S PROF - INCR TRAF	$23,000	$0	$23,000	$23,000					
HIGHWAY TRAFFIC	$0	$11,709	($11,709)						
TRUCKLOADS	0	260	(260)	0	250	0	10	0	0
TRAFFIC TONS	0	11,250	(11,250)	0	11,250	0	0	0	0
TRUCK TON-MILES	0	3,825,000	(3,825,000)	0	3,825,000	0	0	0	0
HIGHWAY MAINTENANCE	$0	$11,709	($11,709)	$0	$11,709	$0	$0	$0	$0

COST BENEFIT MODEL

WORKSHEET E

EMPLOYMENT IMPACT INFORMATION *

EMPLOYMENT		EMPLOYMENT PROJECT	EMPLOYMENT NULL	EMPLOYMENT BENEFIT
STATE UNEMPLOYMENT COSTS PER PERS(	$3,000			$13,500
RAILROAD		0	0	0
SHIPPERS				
Port of Shelby (NETA)		4	0	4
SHIPPER 2				0
SHIPPER 3				0
SHIPPER 4				0
SHIPPER 5				0
SHIPPER 6				0
SHIPPER 7				0
SHIPPER 8				0
SHIPPER 9				0
SHIPPER 10				0
TRUCKER		0.5		0.5
OTHER				0
				0
TOTAL		4.5	0	4.5

* FULL TIME EQUIVALENT

WORKSHEET F

RELOCATION IMPACT SHEET

RELOCATION EXPENSE	PROJECT	NULL	BENEFIT
TOTAL RELOCATION EXPENSE	$0	$0	$0
SHIPPERS	$0	$0	$0
SHIPPER 1	$0	$0	$0
SHIPPER 2	$0	$0	$0
SHIPPER 3	$0	$0	$0
SHIPPER 4	$0	$0	$0
SHIPPER 5	$0	$0	$0
SHIPPER 6	$0	$0	$0
SHIPPER 7	$0	$0	$0
SHIPPER 8	$0	$0	$0
SHIPPER 9	$0	$0	$0
SHIPPER 10	$0	$0	$0
OTHER	$0	$0	$0
OTHER 1	$0	$0	$0
OTHER 2	$0	$0	$0
OTHER 3	$0	$0	$0
OTHER 4	$0	$0	$0
OTHER 5	$0	$0	$0
OTHER 6	$0	$0	$0

COST BENEFIT MODEL

WORKSHEET G

BRANCH LINE REVENUE AND EXPENSE INPUT SHEET

EXHIBIT 1 - ABANDONMENT OR DISCONTINUATION	PROJECT	NULL	BENEFIT
REVENUES ATTRIBUTABLE TO PRIOR YEAR	$562,500	$0	$562,500
FREIGHT ORIGINATED/TERMINATED ON BRANCI	$562,500		$562,500
BRIDGE TRAFFIC	$0	$0	$0
ALL OTHER REVENUE AND INCOME	$0	$0	$0
AVOIDABLE COSTS IN PRIOR YEAR	$450,000	$0	$450,000
ON BRANCH COSTS	$450,000	$0	$450,000
MAINTENANCE OF WAY AND STRUCTURES	$0	$0	$0
MAINTENANCE OF EQUIPMENT	$0	$0	$0
TRANSPORTATION	$0	$0	$0
GENERAL ADMINISTRATIVE	$0	$0	$0
DEADHEADING, TAXI, AND HOTEL	$0	$0	$0
OVERHEAD MOVEMENT	$0	$0	$0
FREIGHT CAR COSTS	$0	$0	$0
RETURN ON INVESTMENT - LOCOMOTIVES	$0	$0	$0
REVENUE TAXES	$0	$0	$0
PROPERTY TAXES	$0	$0	$0
OTHER	$450,000		$450,000
OFF BRANCH COSTS	$0	$0	$0
TERMINAL	$0	$0	$0
LINE-HAUL CAR	$0	$0	$0
INTERCHANGE	$0	$0	$0
SUBSIDIZATION COSTS FOR	$0	$0	$0
REHABILITATION	$0	$0	$0
ADMINISTRATION COSTS	$0	$0	$0
CASUALTY RESERVE COSTS	$0	$0	$0
ROLLING STOCK	$0	$0	$0
FREIGHT CARS	$0	$0	$0
LOCOMOTIVES	$0	$0	$0
NET VALUE OF LAND AND TRACKAGE	$0	$0	$0
MAIN LINE TRACKAGE	$0	$0	$0
ALL OTHER TRACKAGE	$0	$0	$0
LAND - MAIN LINE RIGHT OF WAY	$0	$0	$0
LAND - ALL OTHER	$0	$0	$0
RATE OF RETURN	12%	12%	$0
RETURN ON VALUE	$0	$0	$0
TOTAL RETURN ON VALUE	$0	$0	$0
AVOIDABLE PROFIT (LOSS) FROM OPERATIONS	$112,500	$0	$112,500
ESTIMATED SUBSIDY	$0	$0	$0
NET LIQUIDATION	$0		$0
OPPORTUNITY COST FOREGONE	$0		$0
TOTAL AVOIDABLE LOSS	$0		$0

COST BENEFIT MODEL

WORKSHEET H

PROJECT COST INPUT SHEET

PROJECT COSTS	TOTAL	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9
FRA DISCOUNT RATE	6%	1.00	1.06	1.12	1.19	1.26	1.34	1.42	1.50	1.59	1.69
PRESENT VALUE OF COSTS (EXCLUDING SALVAGE	$124,328	$124,328	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST		$124,328	$0	$0	$0	$0	$0	$0	$0	$0	$0
MATERIAL		$64,700	$0	$0	$0	$0	$0	$0	$0	$0	$0
RAIL		$7,200									
TIES		$11,500									
JOINT BARS		$200									
TIE PLATES		$3,000									
SPIKES		$1,700									
BALLAST		$3,100									
SWITCHES		$36,000									
TOOLS & SUPPLIES		$2,000									
OTHER		$1,000									
EQUIIPMENT		$8,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT		$8,000									
LABOR		$51,628	$0	$0	$0	$0	$0	$0	$0	$0	$0
INSTALLATION		$30,000									
SURFACING & ALIGNMENT		$20,000									
OTHER		$1,628									
ENTER THE FOLLOWING ON REHABILITATION PROJECTS:											
• MATERIAL SALVAGED FOR USE ELSEWHERE		$0									
ENTER THE FOLLOWING ON ABANDONMENT PROJECTS											
• NET LIQUIDATION VALUE OF LINE											
SALVAGE VALUE AT END OF PROJECT LIFE (10 YEARS	20000										
PROJECT COST SHARING (PERCENT)											
FEDERAL											
STATE											
RAILROAD											
LOCAL GOVERNMENT											
SHIPPER/RECEIVER											
OTHER											

COST BENEFIT MODEL

WORKSHEET I

BENEFITS ANALYSIS WORKSHEET 1 - TRANSPORTATION EFFICIENCIES (FROM INPUT WORKSHEET D)

TRANSPORTATION EFFICIENCY BENEFITS	BENEFITS	STATISTICS
REDUCED TRANSPORTATION COST TO SHIPPER ON BASE TRA	$168,750	
BASE TRAFFIC		$11,250
NULL RATE		$450,000
PROJECT RATE		$281,250
SHIPPER PROFIT ON INCREMENTAL TRAFFIC	$23,000	
INCREASED TRAFFIC		11,250
SHIPPERS PROFIT ON INCREMENTAL TRAFFIC		$23,000
BRANCH LINE OPERATING PROFIT (LOSS)	$112,500	
REVENUE		$562,500
ON & OFF BRANCH COSTS		$450,000

WORKSHEET J

BENEFITS ANALYSIS WORKSHEET 1 TRANSPORTATION EFFICIENCIES (FROM INPUT WORKSHEETS E THRU H)

SECONDARY BENEFITS	BENEFITS	STATISTICS
EMPLOYMENT	$13,500	
NUMBER OF JOBS (+ OR -)		4.5
UNEMPLOYMENT COSTS		$13,500
RELOCATION EXPENSES	$0	
HIGHWAY IMPACTS	$11,709	
TRUCKLOADS		(260)
TRAFFIC TONS		(11,250)
TRUCK TON-MILES		(3,825,000)
MAINTENANCE COST		($11,709)
SALVAGE VALUE (END OF PERIOD)	$20,000	

COST BENEFIT MODEL

WORKSHEET K

CALCULATION OF PRESENT VALUE AND BENEFIT COST RATIO

STANDARD PLANNING HORIZON IN YEARS		NET PRESENT VALUE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
TRANSPORTATION EFFICIENCY BENEFITS												
SHIPPER'S REALIZED REDUCTION OF RATE		$1,242,015	$168,750	$168,750	$168,750	$168,750	$168,750	$168,750	$168,750	$168,750	$168,750	$168,750
SHIPPER'S PROFIT ON INCREASED TRAFFIC		$169,282	$23,000	$23,000	$23,000	$23,000	$23,000	$23,000	$23,000	$23,000	$23,000	$23,000
IMPROVED LINE OPER. CONTRIB. OR PROFIT		$828,010	$112,500	$112,500	$112,500	$112,500	$112,500	$112,500	$112,500	$112,500	$112,500	$112,500
SECONDARY BENEFITS												
UNEMPLOYMENT COSTS AVOIDED		$99,361	$13,500	$13,500	$13,500	$13,500	$13,500	$13,500	$13,500	$13,500	$13,500	$13,500
RELOCATION AVOIDANCE		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HIGHWAY IMPACTS AVOIDED		$86,181	$11,709	$11,709	$11,709	$11,709	$11,709	$11,709	$11,709	$11,709	$11,709	$11,709
SALVAGE VALUE (END OF PERIOD)		$11,168										$20,000
TOTAL			$329,459	$329,459	$329,459	$329,459	$329,459	$329,459	$329,459	$329,459	$329,459	$349,459
FRA PUBLISHED DISCOUNT RATE	6%		1.060	1.124	1.191	1.262	1.338	1.419	1.504	1.594	1.689	1.791
PRESENT VALUE OF BENEFITS		$2,436,016	$310,811	$293,218	$276,620	$260,963	$246,191	$232,256	$219,109	$206,707	$195,006	$195,136
PRESENT VALUE OF COSTS		$124,328										
BENEFIT/COST RATIO		19.59										

COST BENEFIT MODEL

WORKSHEET A

PROJECT DESCRIPTION AND CLASSIFICATION

PROJECT NAME	MONTANA WESTERN AND RARUS RAILWAY - IMPROVE BRIDGE CLEARANCE	
PROJECT ALTERNATIVE		
Raise Rarus Bridge 11.02 and lower MWRR tracks to enable MWRR to move double stack containers		
1 CHOOSE THE PROJECT CATEGORY:	1	REHABILITATION & CONTINUED OPERATION
1 REHABILITATION & CONTINUED OPERATION		
2 REHABILITATION AND RESUMPTION OF SERVICE		
3 ACQUISITION WITH CONTINUED OPERATION		
4 NEW CONSTRUCTION		
5 WRITE IN YOUR OWN ON TOP OF THIS		
2 CHOOSE THE NULL ALTERNATIVE	B	CONTINUED OPERATION ON POOR TRACK
A ABANDONMENT		
B CONTINUED OPERATION ON POOR TRACK		
C		
3 CONFIRM THE FRA STANDARD PLANNING HORIZON	10	YEARS
4 CONFIRM THE FRA PUBLISHED DISCOUNT RATE	6%	
5 ENTER THE AVERAGE STATE UNEMPLOYMENT COST FACTOR	$3,000	PER PERSON - 6 MONTHS * $500/MONTH
6 ENTER THE HIGHWAY MAINTENANCE COST PER TON-MILE	0.0031	PER NET TON-MILE

BENEFITS CATEGORIES (Default or User Input)

Increase in branch line profits after rehabilitation.
Any decrease in rates on traffic moving under both alternatives
Shipper business profits on traffic that would not move without rehabilitation.
Salvage value of rehabilitation materials at end of planning horizon.

COST CATEGORIES

Cost of rehabilitation materials & labor.
As a cost offset the value of any materials released which are sold or used elsewhere.

COST BENEFIT MODEL

WORKSHEET B

PROJECT INDENTIFICATION INFORMATION

CARRIER	MWRR AND RARUS	
OWNER	MWRR AND RARUS	
OPERATOR	MWRR AND RARUS	
POINT OF CONTACT	Mike Green	Mike McCarthy
TITLE	General Manager	General Manager
PHONE NUMBER	(406) 782-1240	
FAX NUMBER	(406) 723-5233	
ADDRESS	700 1/2 Railroad St	
CITY, STATE, ZIP	Butte MT 59701	

LINE IDENTIFICATION	CURRENT	PROJECT
NAME OF ENDPOINT 1	Garrison	Bridge
MILEPOST	0.0	10.75
NAME OF ENDPOINT 2	Butte	Bridge
MILEPOST	52	11.04
LENGTH	52 miles	0.29
COUNTIES	Deerlodge, Powell, & Silverbow	
LINE EXTENSIONS	N.A.	
INTERCHANGES	Butte	
ICC STATUS	CATEGORY V	

WORKSHEET C

LINE INVENTORY - INFORMATION ONLY

LINE INVENTORY	CURRENT	PROJECT	NULL ALTERNATIVE
RAIL			
JOINTED OR CONTINUOUS WELD	JOINTED	JOINTED	JOINTED
WEIGHT			
POUNDS OF MOST RAIL	100	112	112
PERCENTAGE OF TOTAL LINE	80%	100%	100%
POUNDS OF NEXT MOST RAIL	115		
PERCENTAGE OF NEXT MOST RAIL	15%		
CONDITION			
OF MOST RAIL	GOOD	GOOD	GOOD
OF NEXT MOST RAIL	GOOD	GOOD	GOOD
TIES			
PRINCIPAL TYPE (WOOD, OTHER)	WOOD	WOOD	WOOD
PERCENT DEFECTIVE	5%	0%	5%
WEIGHT RESTRICTIONS (POUNDS)	263,000	263,000	263,000

COST BENEFIT MODEL

WORKSHEET D

COMMODITY AND TRAFFIC DATA

COMMODITY SHIPMENTS PROFILE	Total			Commodity 1 Intermodal - Various		Commodity 2 High-Wide Loads		Commodity 3	
	PROJECT	NULL	DIFFERENCE	PROJECT	NULL	PROJECT	NULL	PROJECT	NULL
				TOO MANY ENT					
RAIL TRAFFIC									
SHIPMENT COST	$61,000	$40,000	$21,000	$60,000	$40,000	$1,000	$0	$0	$0
RAIL TONS	21,800	14,400	7,400	21,600	14,400	200	0	0	0
RATE PER TON				$2.78	$2.78	$5.00	$0.00	$0.00	$0.00
HIGHWAY TRAFFIC									
SHIPMENT COST	$0	$25,576	($25,576)	$0	$23,976	$0	$1,600	$0	$0
TOTAL HIGHWAY TONS	0	7,400	(7,400)	0	7,200	0	200	0	0
RATE PER TON				$0.00	$3.33	$0.00	$8.00	$0.00	$0.00
HIGHWAY STATISTICS									
TRUCKLOADS	0	410	(410)	0	400	0	10	0	0
AVE TRUCK HAUL, MILES	0	800	(800)	0	400	0	400	0	0
MAINTENANCE COST PER TON-MILE				$0.00306	$0.00306	$0.00306	$0.00306	$0.00306	$0.00306
SHIPMENT STATISTICS									
TOTAL TRAFFIC TONS	21,800	21,800	0	21,600	21,600	200	200	0	0
BASE TRAFFIC COSTS	$61,000	$65,576	($4,576)	$60,000	$63,976	$1,000	$1,600	$0	$0
BASE TRAFFIC TONS	21,800	21,800	0	21,600	21,600	200	200	0	0
RATE PER TON				$2.778	$2.962	$5.000	$8.000	$0.000	$0.000
INCREMENTAL TRAFFIC COSTS	$0	$0	$0	$0		$0		$0	
INCREMENTAL TRAFFIC TONS	0	0	0	0		0		0	
RATE PER TON				$2.78		$5.00		$0.00	
GROSS INCR. IN SHIPR'S PROF - INCR TRAF	$10,000	$0	$10,000	$10,000					
HIGHWAY TRAFFIC	$0	$9,061	($9,061)						
TRUCKLOADS	0	410	(410)	0	400	0	10	0	0
TRAFFIC TONS	0	7,400	(7,400)	0	7,200	0	200	0	0
TRUCK TON-MILES	0	2,960,000	(2,960,000)	0	2,880,000	0	80,000	0	0
HIGHWAY MAINTENANCE	$0	$9,061	($9,061)	$0	$8,816	$0	$245	$0	$0

COST BENEFIT MODEL

WORKSHEET E

EMPLOYMENT IMPACT INFORMATION *

EMPLOYMENT		EMPLOYMENT PROJECT	EMPLOYMENT NULL	EMPLOYMENT BENEFIT
STATE UNEMPLOYMENT COSTS PER PERS(	$3,000			$15,000
RAILROAD		13	13	0
SHIPPERS				
Port of Montana		10	5	5
SHIPPER 2				0
SHIPPER 3				0
SHIPPER 4				0
SHIPPER 5				0
SHIPPER 6				0
SHIPPER 7				0
SHIPPER 8				0
SHIPPER 9				0
SHIPPER 10				0
TRUCKER				0
OTHER				0
				0
TOTAL		23	18	5

* FULL TIME EQUIVALENT

WORKSHEET F

RELOCATION IMPACT SHEET

RELOCATION EXPENSE	PROJECT	NULL	BENEFIT
TOTAL RELOCATION EXPENSE	$0	$0	$0
SHIPPERS	$0	$0	$0
SHIPPER 1	$0	$0	$0
SHIPPER 2	$0	$0	$0
SHIPPER 3	$0	$0	$0
SHIPPER 4	$0	$0	$0
SHIPPER 5	$0	$0	$0
SHIPPER 6	$0	$0	$0
SHIPPER 7	$0	$0	$0
SHIPPER 8	$0	$0	$0
SHIPPER 9	$0	$0	$0
SHIPPER 10	$0	$0	$0
OTHER	$0	$0	$0
OTHER 1	$0	$0	$0
OTHER 2	$0	$0	$0
OTHER 3	$0	$0	$0
OTHER 4	$0	$0	$0
OTHER 5	$0	$0	$0
OTHER 6	$0	$0	$0

COST BENEFIT MODEL

WORKSHEET G

BRANCH LINE REVENUE AND EXPENSE INPUT SHEET

EXHIBIT 1 - ABANDONMENT OR DISCONTINUATION	PROJECT	NULL	BENEFIT
REVENUES ATTRIBUTABLE TO PRIOR YEAR	$91,500	$60,000	$31,500
FREIGHT ORIGINATED/TERMINATED ON BRANC	$91,500	$60,000	$31,500
BRIDGE TRAFFIC	$0	$0	$0
ALL OTHER REVENUE AND INCOME	$0	$0	$0
AVOIDABLE COSTS IN PRIOR YEAR	$60,000	$50,000	$10,000
ON BRANCH COSTS	$60,000	$50,000	$10,000
MAINTENANCE OF WAY AND STRUCTURES	$0	$0	$0
MAINTENANCE OF EQUIPMENT	$0	$0	$0
TRANSPORTATION	$0	$0	$0
GENERAL ADMINISTRATIVE	$0	$0	$0
DEADHEADING, TAXI, AND HOTEL	$0	$0	$0
OVERHEAD MOVEMENT	$0	$0	$0
FREIGHT CAR COSTS	$0	$0	$0
RETURN ON INVESTMENT - LOCOMOTIVES	$0	$0	$0
REVENUE TAXES	$0	$0	$0
PROPERTY TAXES	$0	$0	$0
OTHER	$60,000	$50,000	$10,000
OFF BRANCH COSTS	$0	$0	$0
TERMINAL	$0	$0	$0
LINE-HAUL CAR	$0	$0	$0
INTERCHANGE	$0	$0	$0
SUBSIDIZATION COSTS FOR	$0	$0	$0
REHABILITATION	$0	$0	$0
ADMINISTRATION COSTS	$0	$0	$0
CASUALTY RESERVE COSTS	$0	$0	$0
ROLLING STOCK	$0	$0	$0
FREIGHT CARS	$0	$0	$0
LOCOMOTIVES	$0	$0	$0
NET VALUE OF LAND AND TRACKAGE	$0	$0	$0
MAIN LINE TRACKAGE	$0	$0	$0
ALL OTHER TRACKAGE	$0	$0	$0
LAND - MAIN LINE RIGHT OF WAY	$0	$0	$0
LAND - ALL OTHER	$0	$0	$0
RATE OF RETURN	12%	12%	$0
RETURN ON VALUE	$0	$0	$0
TOTAL RETURN ON VALUE	$0	$0	$0
AVOIDABLE PROFIT (LOSS) FROM OPERATIONS	$31,500	$10,000	$21,500
ESTIMATED SUBSIDY	$0	$0	$0
NET LIQUIDATION	$0		$0
OPPORTUNITY COST FOREGONE	$0		$0
TOTAL AVOIDABLE LOSS	$0		$0

COST BENEFIT MODEL

WORKSHEET H

PROJECT COST INPUT SHEET

PROJECT COSTS	TOTAL	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9
FRA DISCOUNT RATE	6%	1.00	1.06	1.12	1.19	1.26	1.34	1.42	1.50	1.59	1.69
PRESENT VALUE OF COSTS (EXCLUDING SALVAGE	$260,000	$260,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST		$260,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
MATERIAL		$26,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
RAIL											
TIES		$6,900									
JOINT BARS											
TIE PLATES											
SPIKES											
BALLAST											
SWITCHES		$3,000									
TOOLS & SUPPLIES											
OTHER		$10,000									
EQUIIPMENT		$6,100									
EQUIPMENT		$60,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
LABOR		$60,000									
INSTALLATION		$174,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
SURFACING & ALIGNMENT		$90,000									
OTHER		$70,000									
ENTER THE FOLLOWING ON REHABILITATION PROJECTS:		$14,000									
* MATERIAL SALVAGED FOR USE ELSEWHERE		$0									
ENTER THE FOLLOWING ON ABANDONMENT PROJECTS											
* NET LIQUIDATION VALUE OF LINE											
SALVAGE VALUE AT END OF PROJECT LIFE (10 YEARS	0										
PROJECT COST SHARING (PERCENT)											
FEDERAL											
STATE											
RAILROAD											
LOCAL GOVERNMENT											
SHIPPER/RECEIVER											
OTHER											

COST BENEFIT MODEL

WORKSHEET I

BENEFITS ANALYSIS WORKSHEET 1 - TRANSPORTATION EFFICIENCIES (FROM INPUT WORKSHEET D)

TRANSPORTATION EFFICIENCY BENEFITS	BENEFITS	STATISTICS
REDUCED TRANSPORTATION COST TO SHIPPER ON BASE TRA	$4,576	
BASE TRAFFIC		$21,800
NULL RATE		$65,576
PROJECT RATE		$61,000
SHIPPER PROFIT ON INCREMENTAL TRAFFIC	$10,000	
INCREASED TRAFFIC		0
SHIPPERS PROFIT ON INCREMENTAL TRAFFIC		$10,000
BRANCH LINE OPERATING PROFIT (LOSS)	$21,500	
REVENUE		$31,500
ON & OFF BRANCH COSTS		$10,000

WORKSHEET J

BENEFITS ANALYSIS WORKSHEET 1 TRANSPORTATION EFFICIENCIES (FROM INPUT WORKSHEETS E THRU H)

SECONDARY BENEFITS	BENEFITS	STATISTICS
EMPLOYMENT	$15,000	
NUMBER OF JOBS (+ OR -)		5
UNEMPLOYMENT COSTS		$15,000
RELOCATION EXPENSES	$0	
HIGHWAY IMPACTS	$9,061	
TRUCKLOADS		(410)
TRAFFIC TONS		(7,400)
TRUCK TON-MILES		(2,960,000)
MAINTENANCE COST		($9,061)
SALVAGE VALUE (END OF PERIOD)	$0	

COST BENEFIT MODEL

WORKSHEET K

CALCULATION OF PRESENT VALUE AND BENEFIT COST RATIO

STANDARD PLANNING HORIZON IN YEARS	NET PRESENT VALUE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
TRANSPORTATION EFFICIENCY BENEFITS											
SHIPPER'S REALIZED REDUCTION OF RATE	$33,680	$4,576	$4,576	$4,576	$4,576	$4,576	$4,576	$4,576	$4,576	$4,576	$4,576
SHIPPER'S PROFIT ON INCREASED TRAFFIC	$73,601	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
IMPROVED LINE OPER. CONTRIB. OR PROFIT	$158,242	$21,500	$21,500	$21,500	$21,500	$21,500	$21,500	$21,500	$21,500	$21,500	$21,500
SECONDARY BENEFITS											
UNEMPLOYMENT COSTS AVOIDED	$110,401	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000
RELOCATION AVOIDANCE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HIGHWAY IMPACTS AVOIDED	$66,691	$9,061	$9,061	$9,061	$9,061	$9,061	$9,061	$9,061	$9,061	$9,061	$9,061
SALVAGE VALUE (END OF PERIOD)	$0										$0
TOTAL		$60,137	$60,137	$60,137	$60,137	$60,137	$60,137	$60,137	$60,137	$60,137	$60,137
FRA PUBLISHED DISCOUNT RATE 6%		1.060	1.124	1.191	1.262	1.338	1.419	1.504	1.594	1.689	1.791
PRESENT VALUE OF BENEFITS	$442,615	$56,733	$53,522	$50,492	$47,634	$44,938	$42,394	$39,995	$37,731	$35,595	$33,580
PRESENT VALUE OF COSTS	$260,000										
BENEFIT/COST RATIO	1.70										

COST BENEFIT MODEL

WORKSHEET A

PROJECT DESCRIPTION AND CLASSIFICATION

PROJECT NAME: REPLACE CONCRETE DECKS ON BRIDGES OVER JUDITH AND SAGE RIVERS

PROJECT ALTERNATIVE: Continue High Level of Inspection and Maintenance to Maintain Track Stability

1 CHOOSE THE PROJECT CATEGORY: 1 REHABILITATION & CONTINUED OPERATION

- 1 REHABILITATION & CONTINUED OPERATION
- 2 REHABILITATION AND RESUMPTION OF SERVICE
- 3 ACQUISITION WITH CONTINUED OPERATION
- 4 NEW CONSTRUCTION
- 5 WRITE IN YOUR OWN ON TOP OF THIS

2 CHOOSE THE NULL ALTERNATIVE: B CONTINUED OPERATION ON POOR TRACK

- A ABANDONMENT
- B CONTINUED OPERATION ON POOR TRACK
- C

3 CONFIRM THE FRA STANDARD PLANNING HORIZON	10	YEARS
4 CONFIRM THE FRA PUBLISHED DISCOUNT RATE	6%	
5 ENTER THE AVERAGE STATE UNEMPLOYMENT COST FACTOR	$3,000	PER PERSON - 6 MONTHS * $500/MONTH
6 ENTER THE HIGHWAY MAINTENANCE COST PER TON-MILE	0.0031	PER NET TON-MILE

BENEFITS CATEGORIES (Default or User Input)

Increase in branch line profits after rehabilitation.
Any decrease in rates on traffic moving under both alternatives
Shipper business profits on traffic that would not move without rehabilitation.
Salvage value of rehabilitation materials at end of planning horizon.

COST CATEGORIES

Cost of rehabilitation materials & labor.
As a cost offset the value of any materials released which are sold or used elsewhere.

COST BENEFIT MODEL
WORKSHEET B
PROJECT INDENTIFICATION INFORMATION

CARRIER	CENTRAL MONTANA RAIL		
OWNER	STATE OF MONTANA		
OPERATOR	CENTRAL MONTANA RAIL		
POINT OF CONTACT	Ms. Carla R. Allen		
TITLE	General Manager		
PHONE NUMBER	(406) 567-2223		
FAX NUMBER	(406) 567-2689		
ADDRESS	Box 868		
CITY, STATE, ZIP	Denton, MT 59430		
LINE IDENTIFICATION	CURRENT	PROJECT	
NAME OF ENDPOINT 1	Moccasin Jct.	Judith R.	Sage R.
MILEPOST	0.4	75.6	83.9
NAME OF ENDPOINT 2	136.9	Judith R.	Sage R.
MILEPOST	Geraldine	76.0	84.3
LENGTH		2048 Ft.	1884 Ft.
COUNTIES	Fergus, Chouteau, Judith Basi	Judith Basin	
LINE EXTENSIONS			
INTERCHANGES			
ICC STATUS	Category V		

WORKSHEET C
LINE INVENTORY - INFORMATION ONLY

LINE INVENTORY	CURRENT	PROJECT	NULL ALTERNATIVE
RAIL			
JOINTED OR CONTINUOUS WELD	Jointed	Jointed	Jointed
WEIGHT			
POUNDS OF MOST RAIL	75 Lb	75 Lb	75 Lb
PERCENTAGE OF TOTAL LINE			
POUNDS OF NEXT MOST RAIL			
PERCENTAGE OF NEXT MOST RAIL			
CONDITION			
OF MOST RAIL	Good	Good	Good
OF NEXT MOST RAIL			
TIES			
PRINCIPAL TYPE (WOOD, OTHER)	Wood	Wood	Wood
PERCENT DEFECTIVE			
WEIGHT RESTRICTIONS (POUNDS)	263,000	263,000	263,000

COST BENEFIT MODEL

WORKSHEET E

EMPLOYMENT IMPACT INFORMATION *

EMPLOYMENT		EMPLOYMENT PROJECT	EMPLOYMENT NULL	EMPLOYMENT BENEFIT
STATE UNEMPLOYMENT COSTS PER PERSON	$3,000			$81,600
RAILROAD				0
SHIPPERS				
SHIPPER 1				0
SHIPPER 2				0
SHIPPER 3				0
SHIPPER 4				0
SHIPPER 5				0
SHIPPER 6				0
SHIPPER 7				0
SHIPPER 8				0
SHIPPER 9				0
SHIPPER 10				0
TRUCKER				0
OTHER		27.2		27.2
				0
TOTAL		27.2	0	27.2

* FULL TIME EQUIVALENT

WORKSHEET F

RELOCATION IMPACT SHEET

RELOCATION EXPENSE	PROJECT	NULL	BENEFIT
TOTAL RELOCATION EXPENSE	$0	$0	$0
SHIPPERS	$0	$0	$0
SHIPPER 1	$0	$0	$0
SHIPPER 2	$0	$0	$0
SHIPPER 3	$0	$0	$0
SHIPPER 4	$0	$0	$0
SHIPPER 5	$0	$0	$0
SHIPPER 6	$0	$0	$0
SHIPPER 7	$0	$0	$0
SHIPPER 8	$0	$0	$0
SHIPPER 9	$0	$0	$0
SHIPPER 10	$0	$0	$0
OTHER	$0	$0	$0
OTHER 1	$0	$0	$0
OTHER 2	$0	$0	$0
OTHER 3	$0	$0	$0
OTHER 4	$0	$0	$0
OTHER 5	$0	$0	$0
OTHER 6	$0	$0	$0

COST BENEFIT MODEL

WORKSHEET G

BRANCH LINE REVENUE AND EXPENSE INPUT SHEET

EXHIBIT 1 - ABANDONMENT OR DISCONTINUATION	PROJECT	NULL	BENEFIT
REVENUES ATTRIBUTABLE TO PRIOR YEAR	$0	$0	$0
FREIGHT ORIGINATED/TERMINATED ON BRANCH	$0		$0
BRIDGE TRAFFIC	$0	$0	$0
ALL OTHER REVENUE AND INCOME	$0	$0	$0
AVOIDABLE COSTS IN PRIOR YEAR	$0	$30,000	($30,000)
ON BRANCH COSTS	$0	$30,000	($30,000)
MAINTENANCE OF WAY AND STRUCTURES	$0	$0	$0
MAINTENANCE OF EQUIPMENT	$0	$0	$0
TRANSPORTATION	$0	$0	$0
GENERAL ADMINISTRATIVE	$0	$0	$0
DEADHEADING, TAXI, AND HOTEL	$0	$0	$0
OVERHEAD MOVEMENT	$0	$0	$0
FREIGHT CAR COSTS	$0	$0	$0
RETURN ON INVESTMENT - LOCOMOTIVES	$0	$0	$0
REVENUE TAXES	$0	$0	$0
PROPERTY TAXES	$0	$0	$0
OTHER	$0	$30,000	($30,000)
OFF BRANCH COSTS	$0	$0	$0
TERMINAL	$0	$0	$0
LINE-HAUL CAR	$0	$0	$0
INTERCHANGE	$0	$0	$0
SUBSIDIZATION COSTS FOR	$0	$0	$0
REHABILITATION	$0	$0	$0
ADMINISTRATION COSTS	$0	$0	$0
CASUALTY RESERVE COSTS	$0	$0	$0
ROLLING STOCK	$0	$0	$0
FREIGHT CARS	$0	$0	$0
LOCOMOTIVES	$0	$0	$0
NET VALUE OF LAND AND TRACKAGE	$0	$0	$0
MAIN LINE TRACKAGE	$0	$0	$0
ALL OTHER TRACKAGE	$0	$0	$0
LAND - MAIN LINE RIGHT OF WAY	$0	$0	$0
LAND - ALL OTHER	$0	$0	$0
RATE OF RETURN	12%	12%	$0
RETURN ON VALUE	$0	$0	$0
TOTAL RETURN ON VALUE	$0	$0	$0
AVOIDABLE PROFIT (LOSS) FROM OPERATIONS	$0	($30,000)	$30,000
ESTIMATED SUBSIDY	$0	($30,000)	$30,000
NET LIQUIDATION	$0		$0
OPPORTUNITY COST FOREGONE	$0		$0
TOTAL AVOIDABLE LOSS	$0		$0

COST BENEFIT MODEL

WORKSHEET H

PROJECT COST INPUT SHEET

PROJECT COSTS	TOTAL	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9
FRA DISCOUNT RATE	6%	1.00	1.06	1.12	1.19	1.26	1.34	1.42	1.50	1.59	1.69
PRESENT VALUE OF COSTS (EXCLUDING SALVAGE	$1,700,000	$1,700,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST		$1,700,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
MATERIAL		$510,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
RAIL											
TIES											
JOINT BARS											
TIE PLATES											
SPIKES											
BALLAST											
SWITCHES											
TOOLS & SUPPLIES											
OTHER		$510,000									
EQUIIPMENT		$510,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT		$510,000									
LABOR		$680,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
INSTALLATION											
SURFACING & ALIGNMENT											
OTHER		$680,000									
ENTER THE FOLLOWING ON REHABILITATION PROJECTS:											
• MATERIAL SALVAGED FOR USE ELSEWHERE		$0									
ENTER THE FOLLOWING ON ABANDONMENT PROJECTS											
• NET LIQUIDATION VALUE OF LINE											
SALVAGE VALUE AT END OF PROJECT LIFE (10 YEARS)											
PROJECT COST SHARING (PERCENT)											
FEDERAL											
STATE											
RAILROAD											
LOCAL GOVERNMENT											
SHIPPER/RECEIVER											
OTHER											

COST BENEFIT MODEL

WORKSHEET I

BENEFITS ANALYSIS WORKSHEET 1 - TRANSPORTATION EFFICIENCIES (FROM INPUT WORKSHEET D)

TRANSPORTATION EFFICIENCY BENEFITS	BENEFITS	STATISTICS
REDUCED TRANSPORTATION COST TO SHIPPER ON BASE TRA	$0	
BASE TRAFFIC		$0
NULL RATE		$0
PROJECT RATE		$0
SHIPPER PROFIT ON INCREMENTAL TRAFFIC	$0	
INCREASED TRAFFIC		0
SHIPPERS PROFIT ON INCREMENTAL TRAFFIC		$0
BRANCH LINE OPERATING PROFIT (LOSS)	$30,000	
REVENUE		$0
ON & OFF BRANCH COSTS		($30,000)

WORKSHEET J

BENEFITS ANALYSIS WORKSHEET 1 TRANSPORTATION EFFICIENCIES (FROM INPUT WORKSHEETS E THRU H)

SECONDARY BENEFITS	BENEFITS	STATISTICS
EMPLOYMENT	$81,600	
NUMBER OF JOBS (+ OR -)		27.2
UNEMPLOYMENT COSTS		$81,600
RELOCATION EXPENSES	$0	
HIGHWAY IMPACTS	$0	
TRUCKLOADS		0
TRAFFIC TONS		0
TRUCK TON-MILES		0
MAINTENANCE COST		$0
SALVAGE VALUE (END OF PERIOD)	$0	

COST BENEFIT MODEL

WORKSHEET K

CALCULATION OF PRESENT VALUE AND BENEFIT COST RATIO

STANDARD PLANNING HORIZON IN YEARS	NET PRESENT VALUE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
TRANSPORTATION EFFICIENCY BENEFITS											
SHIPPER'S REALIZED REDUCTION OF RATE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SHIPPER'S PROFIT ON INCREASED TRAFFIC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
IMPROVED LINE OPER. CONTRIB. OR PROFIT	$220,803	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
SECONDARY BENEFITS											
UNEMPLOYMENT COSTS AVOIDED	$76,981	$81,600	$0	$0	$0	$0	$0	$0	$0	$0	$0
RELOCATION AVOIDANCE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HIGHWAY IMPACTS AVOIDED	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SALVAGE VALUE (END OF PERIOD)	$0										$0
TOTAL		$111,600	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
FRA PUBLISHED DISCOUNT RATE 6%		1.060	1.124	1.191	1.262	1.338	1.419	1.504	1.594	1.689	1.791
PRESENT VALUE OF BENEFITS	$297,784	$105,283	$26,700	$25,189	$23,763	$22,418	$21,149	$19,952	$18,822	$17,757	$16,752
PRESENT VALUE OF COSTS	$1,700,000										
BENEFIT/COST RATIO	0.18										

APPENDIX D

SURVEY

MONTANA STATE RAIL PLAN

1992 Railroad and Intermodal User Survey

ALL REPLIES WILL BE TREATED AS CONFIDENTIAL

COMPANY INFORMATION

Date _____ At This Location: _____

Company Name _____ Type of Business _____

Address _____ Total Number of Employees _____

City, State Zip _____ Gross Payroll _____

Telephone _____ Railroad: _____

Contact Person _____ Station _____

Title _____ Milepost _____

Where accurate information is not available, please provide best estimates.

I. RAIL TRANSPORTATION USE

A. Please estimate principal 1991 rail transportation use from this location:

DESTINATIONS SHIPPED TO	ORIGINS RECEIVED FROM	ROUTINGS	COMMODITY	NUMBER OF CARLOADS	TONS IN THOUSANDS	TYPE OF RAIL CAR

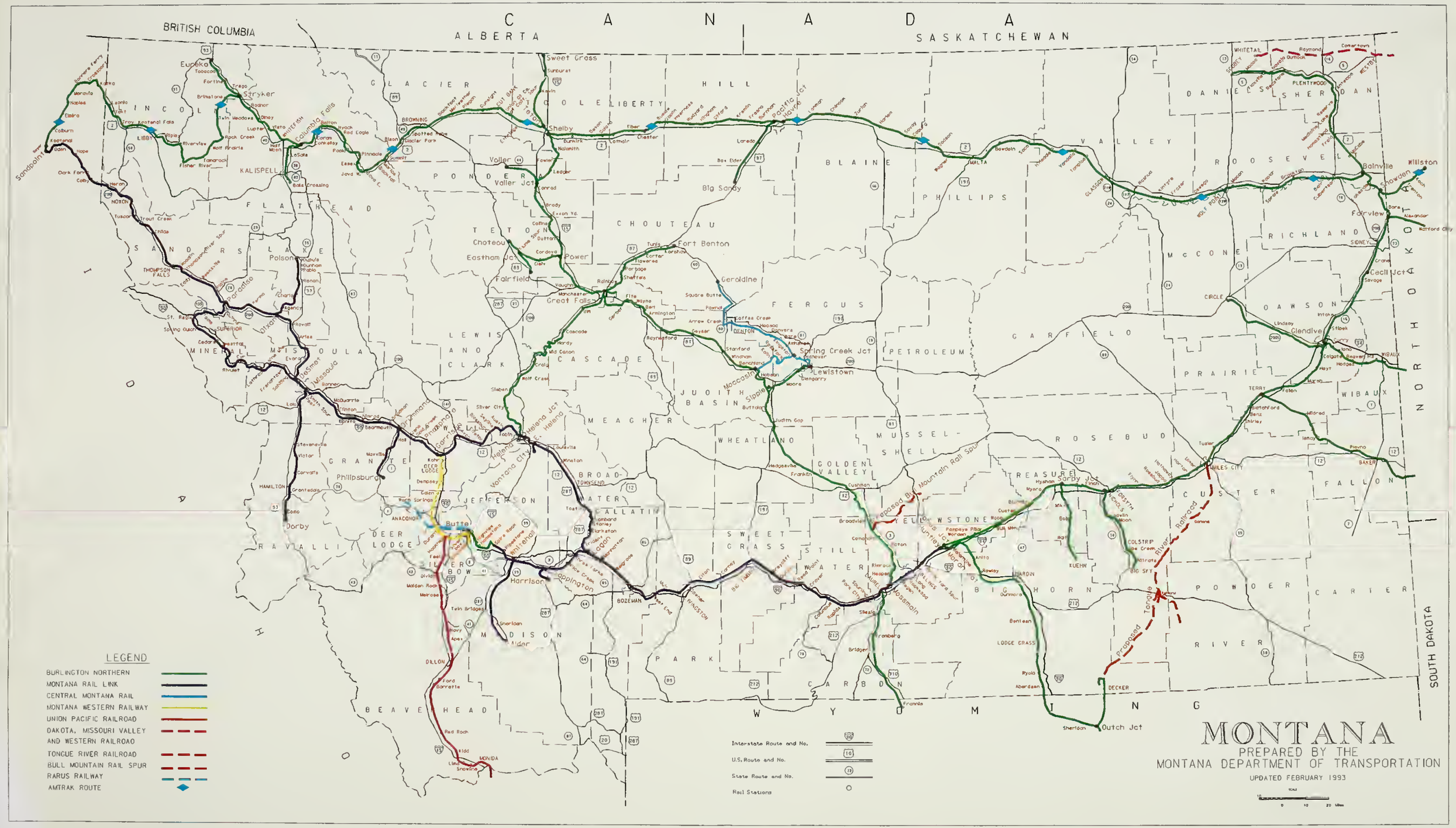
B. In terms of rail volume, was 1991 a typical year? Yes ☐ No ☐

If no, why not? _____

Please specify a typical year: 19 ____ What would your carloads and tonnage be in the typical year? Carloads _____ Tonnage _____

C. Of your total transportation needs at this facility, what is the percent by modes:

TONS IN THOUSANDS	PERCENT RAIL	PERCENT TRUCK	PERCENT OTHER	TOTAL
	%	%	%	100%
	%	%	%	100%
	%	%	%	100%
	%	%	%	100%


BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
C A N A D A
LEGEND
BURLINGTON NORTHERN
MONTANA RAIL LINK
CENTRAL MONTANA RAIL
MONTANA WESTERN RAILWAY
UNION PACIFIC RAILROAD
DAKOTA, MISSOURI VALLEY AND WESTERN RAILROAD
TONGUE RIVER RAILROAD
BULL MOUNTAIN RAIL SPUR
RARUS RAILWAY
AMTRAK ROUTE
Interstate Route and No.
U.S. Route and No.
State Route and No.
Rail Stations
MONTANA
PREPARED BY THE
MONTANA DEPARTMENT OF TRANSPORTATION
UPDATED FEBRUARY 1993
SOUTH DAKOTA
NORTH DAKOTA
WYOMING
Sandpoint
Eureka
Stryker
Troy
LIBBY
KALISPELL
Columbia Falls
Whitefish
Kalispell
Polson
Thompson Falls
Paradise
Superior
Missoula
Bonner
Clinton
Bearmouth
Drummond
Philipsburg
Hamilton
Darby
Anaconda
Butte
Deer Lodge
Harrison
Whitehall
Bozeman
Three Forks
Logan
Livingston
Big Timber
Reed Point
Columbus
Laurel
Billings
Huntley
Worden
Pompeys Pillar
Custer
Hysham
Sarpy Jct
Forsyth
Miles City
Colstrip
Rosebud
Decker
Outch Jct
Sheridan
Ryegate
Harlowton
Judith Gap
Lewistown
Moccasin
Roundup
Musselshell
Melstone
Mosby
Jordan
Glasgow
Wolf Point
Malta
Havre
Shelby
Conrad
Valier
Choteau
Fort Benton
Great Falls
Cascade
Geraldine
Denton
Spring Creek Jct
Big Sandy
Laredo
Box Elder
Sweet Grass
Coutts
Whitetail
Plentywood
Scobey
Raymond
Culbertson
Westby
Bainville
Williston
Fairview
Sidney
Cartwright
Cecil Jct
Savage
Glendive
Circle
Terry
Wibaux
Baker
Fallon
Forsyth
Big Sky
Colstrip
Kuehn
Lodge Grass
Benteen
Hardin
Custer
Powder River
Carter
Rosebud
Treasure
Yellowstone
Big Horn
Musselshell
Golden Valley
Wheatland
Meagher
Broadwater
Jefferson
Madison
Gallatin
Park
Carbon
Beaverhead
Deer Lodge
Granite
Powell
Lewis and Clark
Teton
Pondera
Glacier
Toole
Liberty
Hill
Blaine
Phillips
Valley
Roosevelt
Daniels
Sheridan
McCone
Richland
Dawson
Prairie
Wibaux
Fallon
Custer
Petroleum
Garfield
Fergus
Judith Basin
Flathead
Lincoln
Sanders
Mineral
Missoula
Ravalli
Silver Bow
Cascade
Chouteau
Proposed Bull Mountain Rail Spur
Proposed Tongue River Railroad

D. Please *rate* your 1991/1992 rail services and *rank* the importance of each item to you:

Item	How well did your carrier(s) perform? Check one of the following. ←POOR EXCELLENT→					Rank 1=most important 10=least important	Would improvements increase traffic? Yes	No
Car Supply (adequacy)	☐	☐	☐	☐	☐	_____	☐	☐
Car Suitability (type, capacity)	☐	☐	☐	☐	☐	_____	☐	☐
Transit Time	☐	☐	☐	☐	☐	_____	☐	☐
Reliability	☐	☐	☐	☐	☐	_____	☐	☐
Car Cleanliness	☐	☐	☐	☐	☐	_____	☐	☐
Service Frequency	☐	☐	☐	☐	☐	_____	☐	☐
Special Services (such as extra switches)	☐	☐	☐	☐	☐	_____	☐	☐
Short Term Transportation Contracts	☐	☐	☐	☐	☐	_____	☐	☐
Long Term Transportation Contracts	☐	☐	☐	☐	☐	_____	☐	☐

Estimate percent of increased rail traffic, if service were improved. _____%

Any comments? _____

E. For truck shipments to/from this facility in 1991, please complete all that apply.

✓	Type of Truck	Number of Truck Loads		Average Length of Haul, Miles	
		Outbound	Inbound	Outbound	Inbound
	Private Fleet				
	For-Hire (contract/common) Carrier				
	Owner-Operators				

F. How important is rail/truck/intermodal service to your business at this location?

Type of Service	✓ IMPORTANCE ←Not very Very→					Percent of Total *Business* Cost	Percent of Total *Transportation* Cost
Rail						%	%
Truck						%	%
Intermodal						%	%

G. What is your potential growth of business and use of rail/truck/intermodal services?

PERCENT OF GROWTH IN	Business	Rail	Truck	Intermodal
Next Year	%	%	%	%
Next 5 Years	%	%	%	%

II. LOADING/UNLOADING FACILITIES

A. Siding capacity to load/unload: _____ cars
(If siding is at a location other than business location, specify: Location _____
Distance and route from business _____

B. Loading/Unloading facilities and equipment currently used:

Conveyor	☐	Pneumatic System	☐
Crane	☐	Under Track Pit	☐
Dock	☐	Other, Specify _____	
Liquid System	☐		

C. Do you expect to make any changes to your rail siding/facilities? Yes ☐ No ☐
If yes, what changes and why? _____

_____

D. What facilities and equipment do you have for loading/unloading trucks and containers?
Number of Bays or Doors _____ Bulk Load/Unload systems _____
Number of Platforms _____ Others, Type and Number _____
Number of Fork Lifts _____ _____

Are these facilities and equipment now used to capacity? Yes ☐ No ☐
Please explain _____

THE FOLLOWING QUESTIONS DO NOT IMPLY THAT RAIL SERVICE TO THIS LOCATION WILL NECESSARILY BE DISCONTINUED OR CONTINUED

III. IF RAIL FREIGHT SERVICE WAS DISCONTINUED ON THIS RAIL LINE:

A. Your company might (indicate the choice that would apply):

☐ Ship/receive present rail freight entirely by truck.
Types of trucks to be used _____
Average Truckload = _____ pounds

☐ Use another rail station and truck to this location.
Location of alternate station _____
Railroad serving alternate station _____
Types of trucks to be used: Non-Intermodal ☐ Intermodal trailer ☐ Container ☐
Average truck/container load = _____ pounds

☐ Relocate this facility. New location: _____

☐ Go out of business and not relocate.

☐ Other. Please describe. _____

B. What changes in employment and payroll would occur at this location?

_____ % Employment Increase _____ % Payroll increase
_____ % Employment Decrease _____ % Payroll Decrease

C. What capital expenditures would be required to accommodate the use of trucks to ship traffic now moved by rail? $_____ To do:_____

D. Your transportation costs would: Increase ☐ Remain unchanged ☐ Decrease ☐
By how much? (Specify in cost per ton, bushel, etc.) $_____ per _____
If this is an increase or decrease, what is the relative amount of increase or decrease? _____%

E. Would this company be willing to participate financially or otherwise as part of a group of rail users, by taking any of the following actions in order to prevent abandonment of this rail line?

Pay surcharge per car with the funds to be used to offset the railroad's operating loss on the line and/or to improve the physical condition of the line. Yes ☐ No ☐

Pay a portion of the actual costs of line improvements. Yes ☐ No ☐

Guarantee contractually with the railroad to ship/receive a specific number of cars annually. Yes ☐ No ☐ If yes, how many? _____

Other. Please describe. _____

_____

F. If you have additional comments regarding the rail line, rail services, etc., please note them here. _____

_____

G. If appropriate, would you be willing to talk with a MDOT representative or one of our consultants concerning your survey response? Yes ☐ No ☐

Should you have any questions, please call Patricia Saindon or Jan Vogel at Montana Department of Transportation or Robert Leilich of Corporate Strategies, Inc. (CSI) at (800) 969-0560 or FAX (703) 642-8998. We appreciate your help in this important project.

Please return by **October** ___ to:

Patricia Saindon, Administrator
Rail & Transit Division
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620
Tel: (406) 444-3423 FAX (406) 444-7671

APPENDIX E

GLOSSARY

GLOSSARY

Benefit/Cost Ratio	Ratio of benefits, discounted to a present dollar value, divided by the present value of a stream of associated costs.
Bridge Carrier	A railroad which primarily handles traffic between two other railroads with little or no originating and terminating traffic.
Category 1	All lines or portions of lines which the carrier anticipates will be the subject of an abandonment or discontinuance application to be filed within the 3-year period following the date upon which the diagram, or any amended diagram, is filed with the Commission.
Category 2	All lines or portions of lines potentially subject to abandonment which the carrier has under study and believes may be the subject of a future abandonment application because of either anticipated operating losses or excessive rehabilitation costs, as compared to potential revenues.
Category 3	All lines or portions of lines for which an abandonment or discontinuance application is pending before the Commission on the date upon which the diagram, or any amended diagram, is filed with the Commission.
Category 4	All lines or portions of lines which are being operated under the rail service continuation provisions of 49 U.S.C. §10905 or of Section 304(c)(2) of the Regional Rail Reorganization Act of 1973, as amended, on the date upon which the diagram, or any amended diagram, is filed with the Commission
Category 5	All other lines or portions of lines which the carrier owns and operates, directly or indirectly.
Class I Railroad	Railroads which receive more than $250 million annually in gross operating revenues. (July 1992 definition, based on 1991 dollars. The dollar amount is periodically revised or indexed by the Commission.)
Class II Railroad	Railroads which receive $20 million or more, but less than $250 million in annual operating revenues. (July 1992 definition, based on 1991 dollars. The dollar amount is periodically revised or indexed by the Commission.)
Class III Railroad	Railroads which receive less than $20 million annually in gross operating revenues. (July 1992 definition, based on 1991 dollars. The dollar amount is periodically revised or indexed by the Commission.)

Class I Track	Maximum allowable speeds for freight trains is 10 MPH and 15 MPH for passenger trains, assuming all Track Safety criteria for that classification have been met, as described in 49CFR213.
Class II Track	Maximum allowable speeds for freight trains is 25 MPH and 30 MPH for passenger trains, assuming all Track Safety criteria for that classification have been met, as described in 49CFR213.
Class III Tracks	Maximum allowable speeds for freight trains is 40 MPH and 60 MPH for passenger trains, assuming all Track Safety criteria for that classification have been met, as described in 49CFR213.
Class IV Tracks	Maximum allowable speeds for freight trains is 60 MPH and 80 MPH for passenger trains.
Class V Tracks	Maximum allowable speeds for freight trains is 80 MPH and 90 MPH for passenger trains.
Class VI Tracks	Maximum allowable speeds for freight trains is 110 MPH and 110 MPH for passenger trains.
Division	A defined portion of a railroad shown in the employee timetable.
FRA Excepted Track	Track that does not meet Class I Track standards. Excepted track and operations over such track are governed by rules described in 49CFR213.4.
Jointed Rail	Rail typically in 39-foot sections, which is joined by plates called "angle bars" and bolts.
Line Rationalization	Sale or abandonment of line no longer economically viable to the owning carrier.
Local Traffic	Traffic which both originates and terminates on the same carrier.
Operating Ratio	The ratio of total operating expenses (including depreciation) divided by total operating income on a pre-tax basis.
Originating Railroad	A railroad which primarily loads traffic on its line for delivery to another railroad for transportation beyond.
Present Value	A total dollar amount that has the equivalent value of a stream of dollars over a prescribed length of time. Present value is a function of the dollar amount in each year, the effective discount (interest) rate, and the period (time) in which the dollar amount occurs.

Rail Banking	The preservation of railroad rights-of-way for possible restoration of service or alternate uses.
Subdivision	A portion of a division, as shown in the employee division timetable.
Terminating Railroad	A railroad which primarily receives traffic from another railroad for delivery (unloading) by a receiver.
Track Safety Classification	A classification of track defined in 49CFR213.9 that lists maximum allowable operating speed for track that meets all of the requirements prescribed in 49CFR213.
Intermodal Terminal	Place where trailers and/or containers are loaded/unloaded to and from railroad cars to or from the ground or to truck chassis for highway movement.
Transload Facility	A facility set up for freight car-to-truck or truck-to-freight car transfer. A bulk transload facility is specifically designed to transfer bulk commodities such as grain, cement, flour, etc. Most bulk transload facilities involve covered hoppers and trucks specifically designed for bulk commodities.
Weight of Rail	A measure of rail size in pounds per yard of length, such as "90 lb. rail."
Welded Rail	Rail sections that are welded into continuous strings, typically around 1,400 feet long.

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